

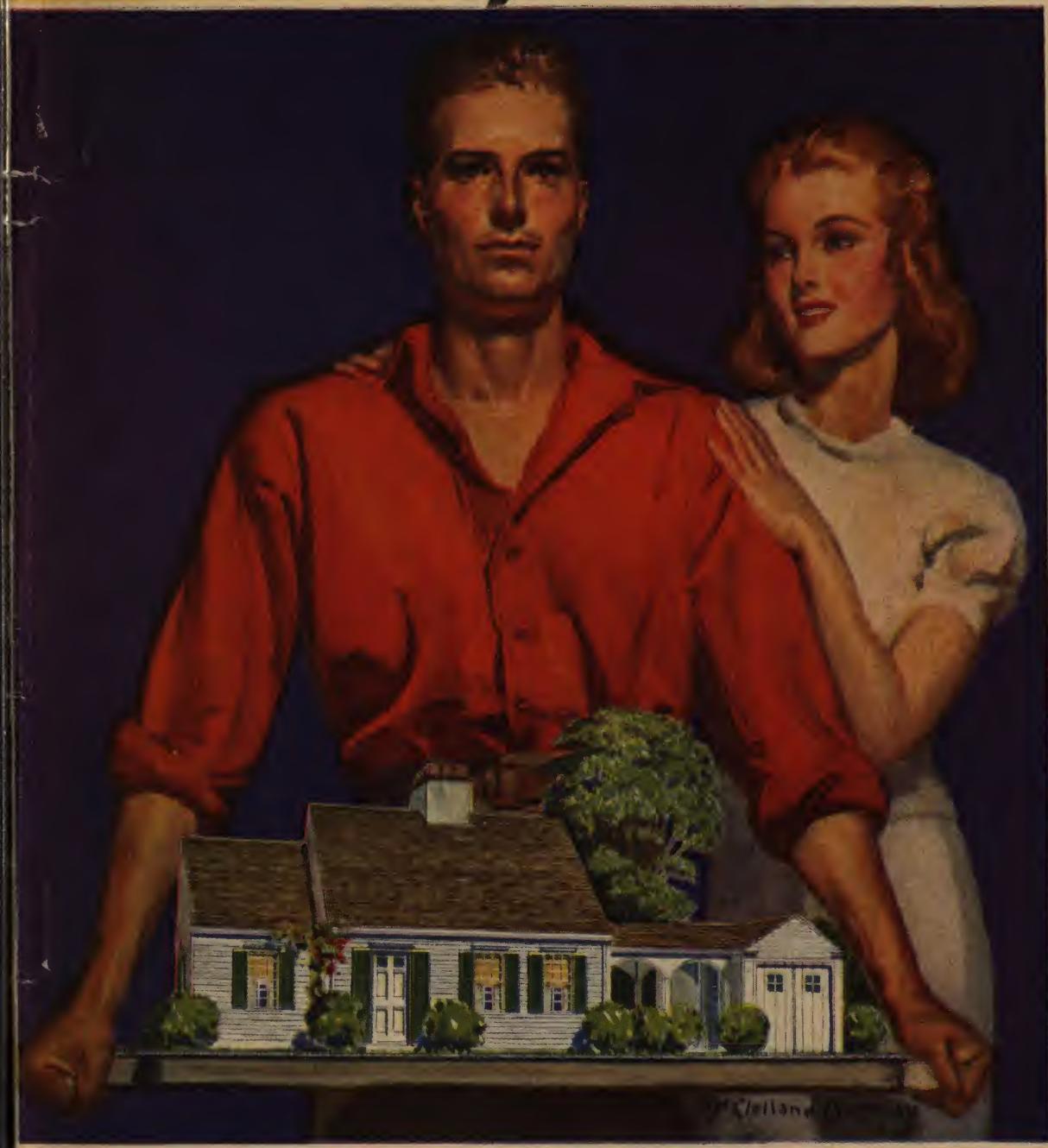
SMALL HOME BUILDERS' Year Book

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ANC

1938-1939

AUTHORITATIVE
INFORMATION
ON
DESIGNING
•
FINANCING
•
CONSTRUCTING
•
EQUIPPING
•
DECORATING
•
FURNISHING



PRICE
TWENTY-FIVE CENTS
Zone 2

HOW TO GET A
90 PER CENT FHA-INSURED LOAN

THIS EDITION 1,000,000 COPIES

To America's MILLION HOME-MAKERS

A HOME OF YOUR OWN! — The dream of every true American! Your heritage from those hardy pioneers who wrought our nation out of the wilderness!

Yours the goal they won! And *Yours* the obligation to protect that nation against alien doctrines that lead to chaos. This is the challenge of our times—a challenge being met with the sound common sense of our forefathers and the determination that America shall grow by evolution—not revolution.

In the struggle to preserve American institutions nowhere do we find sturdier backing than in the stability and good citizenship of the Home Owner. For Home Ownership means safety, security, peace, happiness.

The greatest need in this country today is more good homes—better shelter—for our 30,000,000 families. To meet this need all the influence of Government, all the force of the Building Industry, and all the power of finance have united to make it possible for the average American family to build, and pay for, a Home. As its contribution to this great task, National Small Homes Bureau dedicates to You Million Home-Makers—

SMALL HOME BUILDERS' YEAR BOOK—1938-1939

—a cooperative effort by the Building Industry to tell *You*, in simple form and logical sequence, the full story of what it means to create a *Complete* Home.

It gives the latest developments in the design and construction of houses costing up to \$7,500; explains the National Housing Act; tells how loan associations, architects, builders, material dealers, and realtors can help you.

It answers such questions as: Can You Afford to Build? What Kind of House? Where? What Materials, Equipment, Furnishings? What Cost?

There is so much scattered material on the complex subject of building that it is difficult indeed for the home-seeker to find out what to do and how to do it. So National Small Homes Bureau invites your questions about building, or buying, a home, and on every phase of home-making.

NATIONAL SMALL HOMES BUREAU, INC.

572 Madison Avenue

New York City



Homecoming

After the fair, far places, this is best;
The well-known language and the labeled door,
The peace that waits for him who asks no more.
To be at home, to be no more a guest,
Though loved, though honored; forever to have
turned

From pleasures mixed with mystery, and have
come
Into one's own again—this is the sum
Of earthly good. . . . O measureless
The bounty of a universe wherein
One who has had his fill of glamor at last,
May travel back again and find the past,
And be at home among his kind and kin.



Better Build Now

YOU'LL NEVER BUILD BETTER

THE great American custom of fondly recalling "the good old days" often is based on sentiment rather than fact. Actually, honest comparison between the old and the new is the only true way to estimate values. The 1918 automobile has no value today, and the radio that cost \$100 ten years ago is so out-of-date that you can buy a better one anywhere for fifty. *It is not how much you pay, but how much you get for what you pay that really counts!*

The remarkable development of science and engineering in America has given industry tools to make better and less costly goods. There are many, many examples of invention, discovery and research that have made life easier to live and nowhere is this more true than in home-making, a science that has shown more progress than any other part of our cultural life.

Ten Years of Improvements

What a difference ten years make! The only permanent thing in this whole wide

world of ours is change!—Changing times and changing standards; improvements, innovations and progress! These are the very life-blood of our great country. And the home of today moves onward with the times. Improvements in the arts of designing and building, in materials and equipment, have given us a finished product—a complete package—more beautiful, more livable, and more economical!

Think back for a moment. Ten years ago a frame house costing \$13,000 had perhaps seven rooms, one bath, hardwood floors, hot water heat, and a detached garage. Today the same money will build a larger house of brick. It will have seven rooms, two baths, a first floor lavatory, a kitchen that is a housewife's dream, a recreation room, and a built-in garage. It will be winter air-conditioned, automatically heated, and it will have plumbing and lighting fixtures that could only be found in the more expensive homes in 1928. It will be, in every way, a better house.

Built for the Future

Moreover, homes today are being built to meet tomorrow's requirements, so they will not be out of date ten years from now. Building methods today follow engineering precepts that allow for the scientific advancements of tomorrow. Room for room and item for item the 1938 home gives values—present and future—that



couldn't be had at any price ten years ago. So think about this when you are thinking about buying or building a home!

Better Materials—Better Equipment

While it is true that some material prices are above 1928 levels, other materials of lower cost, higher cost, higher quality, and that take less labor to install, have replaced old standbys. So, when you compare home values, don't put too much emphasis on the wage of a carpenter or the cost of a pane of glass. *The house you actually get for the money is the only true estimate.* Greater experience of builders and architects, finer equipment, better materials, and the increased skill of craftsmen, all are contributing to building better homes at lower costs.

Air conditioning was just being developed for houses in 1928. Today it is available for hundreds of homes—and it will be a necessity, not a luxury, tomorrow.

Automatic heat is now standard equipment in even the moderate priced home. Ten years ago it was a rarity.

The manufacturers of insulating materials have so standardized their products and reduced prices that 1938 homes are

cooler in summer, warmer in winter, and cost less to heat than the typical house of 1928.

Recreation rooms were either luxuries or patchwork affairs in 1928. They find place today in even the modest home, because better-built basements and compact heating equipment have added 15% to usable space in the average home *without any increase in cost.*

In 1928 an expensive home probably had a mechanical refrigerator, but not a "planned" kitchen. Today's moderate priced homes have efficient refrigerating and cooking equipment, compact cabinet units, fine sinks, special lighting and flooring, all scientifically worked out to make the job of cooking quicker, easier and more pleasant.



A Lot More House for Your Money

These are *plus-features* in the modern home today that were not to be had when houses were built ten years ago. They add hundreds of dollars in values and yet they are standard features. The building industry and the architectural profession have kept pace with modern conditions and have created more comfortable homes, more beautiful homes and more lasting homes, *without increasing the cost.*

All this means that the 1938 building dollar goes further than ever. By any standard of comparison, the compact, convenient efficient home of 1938, a *complete living unit*, is infinitely better than its predecessors!

It Is Easier to Select a Home

Ten years ago your choice was limited—but today the building industry has provided VARIETY . . . a selection of styles, sizes, and prices to fit the requirements of every family. You no longer have to accept something designed for an earlier generation when you seek a home. It's easy to find exactly what you want, either as a finished house ready for your occupancy, or in plan form from which to build to suit yourself.

BUILD NOW AND SAVE

Have you been waiting for building costs to go down? If you have, you will be surprised at the facts given here, for they prove that now is probably the most favorable time to build that you will face for five or ten years to come!

Here are the reasons:

(1) **Building Sites Cost Less:** The real estate market is now below 1926 values in almost all sections of the country. Inquire from your own real estate broker; compare present prices with those recorded for sales ten or twelve years ago. When the business trend starts upward, land values will rise along with other values.

(2) **New Financing Methods Provide Savings:** FHA insurance for mortgages has made the financing of new homes cheaper than ever before. Under former methods a \$5,000 first mortgage, periodically renewed, would cost \$6,500 in interest alone in 20 years and at the end of this period you would still owe the \$5,000. Under the present FHA in-

sured mortgage for the same amount, you would pay out in twenty years a total of \$8,911.20 on a \$5,000 loan. But at the end of that period you would owe nothing. The difference between the old and the new plans would save you \$2,588.80.

(3) **Building Plans Are Better:** Modern houses are more efficiently planned, have less waste space and provide more livability, comfort and simplified housekeeping than comparable dwellings designed 10 or 15 years ago. The cost of useful space has gone down.

(4) **Material Costs:** The United States Bureau of Labor Statistics has prepared a chart showing that the average of all building material costs in November, 1937, was approximately 6% less than in 1926. Observation indicates that average costs have not risen since this chart was published.

(5) **Labor Costs:** Labor, working with better tools and under more skilled direction, is producing more today per

dollar of wage than it did in 1926 in spite of increased wage scales. This condition will change when the demand for building labor exceeds the limited supply.

(6) **Equipment Prices Have Declined:** Plumbing fixtures that cost \$100 in 1926 now cost about \$78. The average cost of a conversion oil burner was then \$800; last year the average installed price was \$295. Electric refrigerators which sold for \$270 in 1928 now sell for \$172. A residential coal stoker which cost \$585 in 1926 can be purchased for around \$260 today. Improved production methods have lowered the cost of many similar standard items of equipment.

More for Your Money:

Today you get more value for your building dollar than at any time in the past. Today you also face a favorable buying period that may not be repeated until another cycle of prosperity has passed.

Style Notes

FOR THE HOME OWNER



GEORGIAN

SOUTHERN COLONIAL

AMERICAN FARMHOUSE

CAP COD

DUTCH COLONIAL

ENGLISH

MEDITERRANEAN

SPANISH

FRENCH PROVINCIAL

MODERN

HAVE you chosen the architectural style you want for your new house? Most people start thinking about houses in terms of style—just as a woman thinks about a new dress or a hat—long before they consider its serviceability. Often the first choice, made this way, proves to be the best choice in the end, but it may lead to strange results.

For architectural styles are far different from fashions. They were not created by some popular designer, to become the vogue of the moment. Rather, they grew out of many trials to find the best design for the climate, the people and the construction methods which prevailed during the years when the style took shape. And so today, an architectural style is not something to pick off the shelf; it should be chosen to fit the neighborhood, the plan, the construction materials, and the purse.

Here are some suggestions that may help to choose a style suited to your house:

(1) Choose a style that fits your neighborhood. When a mortgage application is being examined for insurance by the Federal Housing Administration considerable weight is given by the examiner to what is called "conformity to neighborhood." This means that a new house should look well in relation to the houses nearby.

This does not mean that a new house should copy its neighbors; far from it! But if the trend were toward Colonial styles, there might be any variation from formal Georgian to Cape Cod, for the underlying simplicity of line and detail would help the houses live well together.

(2) Let the plan influence the exterior. Each style in architecture grew out of characteristic room arrangements, and these in turn evolved from climate and social habits. The Cape Cod cottage, for example, had need for more room space on the ground floor than in the sleeping loft above. If your family wants most of its rooms on the ground floor, the Cape Cod cottage style may prove appropriate.

Elizabethan and Tudor English houses originally had stone roofs and used heavy oak timbers for their framing. To get the steep-pitched roofs the rainy climate demanded, it was necessary to keep the houses narrow; otherwise the roofs would be too high and too heavy. So these dwellings are characterized by a shallow,

extended plan. If your plan works out that way, then one of these English styles will probably fit it.

(3) Your preference for materials will exert a strong influence on the style of your house. Stucco, without half-timbering—came to us from the Mediterranean Area, and from the Spanish haciendas of early California and the southwest. With it is associated the clay tile roof of rather low pitch. Stucco in combination with timber and stone or brick developed in Norman France and England, because stucco was used as a sort of plaster over the rough masonry employed to fill in between the heavy wooden timbers. With this use of stucco we find slate roofs, or clay shingle tiles.

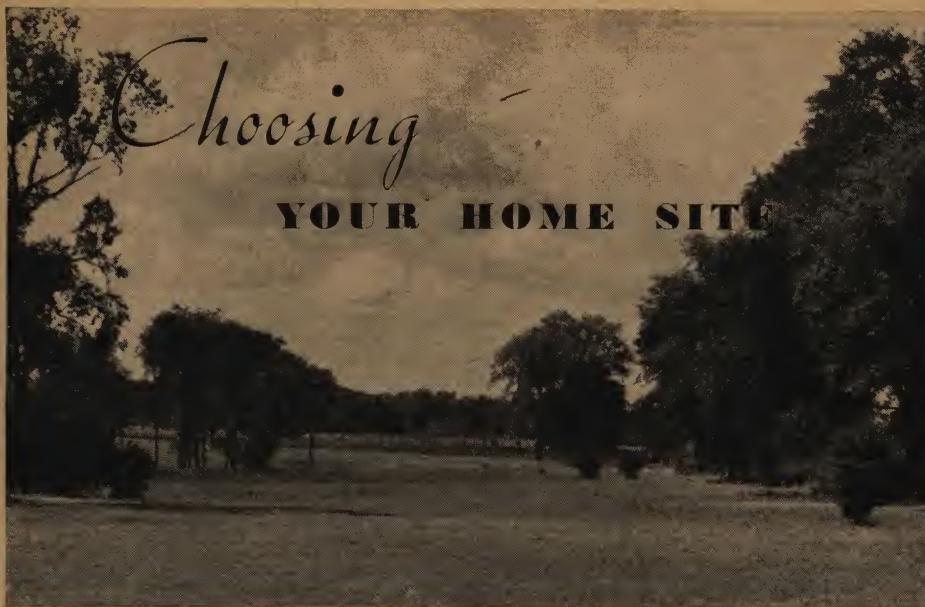
Brick is a universal material, used in all countries, in all periods. Only the manner of using it varied, according to the quality and color of the local brick and the skill of the masons. Wood shingles and clapboards and other forms of board siding developed in countries where wood was plentiful and easy to work, notably right here in America. Stone cannot be carried far, except at great expense, so it always has a local character.

The thing to avoid is the misuse of materials in a style that calls for some well established combination. To combine a Spanish clay tile roof with a siding of hand-split shingles would be something like wearing a silk top hat with pajamas.

(4) Don't imitate any style, unless the original you are copying is in excellent taste and really fits your lot, your plan, your preferred materials and your way of living. Rarely are present needs identical with those that governed the development of the original.

Good design is more important than faithful adherence to an established style. Good design is a matter of taste, resulting in permanent attractiveness. Simplicity, proportion, unity, harmony are elements of character that result in pleasing design. These qualities are not common, they are the result of natural skill and long training.

Styles change in popularity, good design never loses its appeal. Architects today are designing for the present and the future. Inspired by the best that has gone before, they create new compositions and new beauty when opportunity affords.



Choosing YOUR HOME SITE

By

HERBERT U. NELSON

Executive Vice-President

**NATIONAL ASSOCIATION OF
REAL ESTATE BOARDS**

HOW much is a lot worth, and why does one lot cost more than another?

Until you can answer these questions the purchase of a home site is something of a gamble. Three things determine the proper price for a lot: the neighborhood, the size and physical condition of the lot, and the state of national prosperity.

Neighborhood is most important for it embraces many things. The Federal Housing Administration, when appraising a mortgage for insurance, pays a great deal of attention to the present and *probable future* character of the neighborhood.

Ideally, the location should be protected against influences that lessen values, such as the encroachment of industrial districts or the introduction of apartment houses among dwellings. Protection by means of good zoning laws or legal restrictions is considered highly desirable.

A fairly uniform development of the neighborhood increases land values. The houses should be approximately of the same age, size and general character. A new house among old houses is likely to suffer in value as the older homes get out of date. A small house among large ones, or a luxurious house among inexpensive homes will be at a disadvantage if the time comes when it must be resold.

Of course land that is accessible to schools, churches, stores and amusement centers is worth more than land far away from these conveniences.

If the neighborhood is served by a public water supply, fire hydrants, sewerage systems, electricity and gas it is worth more than one that lacks any of these utilities. The reason is simple: if you

have to drill your own well, build a septic tank, put in your own lighting system or pay extra for fire insurance, you should pay correspondingly less for the land.

The level of taxes and the likelihood of local assessments similarly affect neighborhood values. But when comparing taxes between one town and another, do not be guided by the tax rate alone. It is the actual tax bill that counts. This bill may be lower in a town that has a high tax rate and places a low "assessed value" on property than in another community with a somewhat lower tax rate and high valuations.

Tax rates affect whole towns but special assessments may affect only neighborhoods. These may be levied for new schools, utilities, paving or curbing, tree planting or other public improvements that affect only one part of the community. Therefore a location fully developed with all reasonable improvements is worth more than one subject to assessments later on.

And finally the "appeal" of a neighborhood influences its value, because it makes people like it or dislike it according to its relative charm. The layout of streets, the presence of trees, the architectural attractiveness of existing houses, even such a thing as "social desirability" contributes to this quality of appeal.

All of these things should be borne in mind when choosing between communities and neighborhoods. They determine the probable *future* value as well as set the general level of present values.

What makes one lot worth more than another in the same neighborhood?

Size, of course, comes first. Location in the block, outlook or view, nearness to

transportation lines but remoteness from traffic noises come next, according to what you are seeking. A corner location costs more than a lot within a block because it offers two free outlooks, but it means more sidewalks to clean and more exposure to traffic. You can take your choice.

Sometimes, however, the differences in physical character of two nearby lots will change their values. If one is rocky and the other clear, the latter should be worth more than the former because of extra costs of blasting, excavation and grading. If one lot is well drained, the other wet, the difference in price should pay for installing drains. If one is sloping and the other flat, if one has trees and the other none, and if one has a good view and the other a poor one, the price should reflect the cost of making both equally desirable.

In short, a lot priced at \$500 may cost you more than another valued at \$1,500 if you have to spend more than \$1,000 extra to have as attractive a home on the cheaper land as you would on the other.

There remains only the final factor—national prosperity—and this no one seems able to control. When people are prosperous they have money to spend and will use it more freely to buy what they want. Then land values rise because there are more buyers with ready cash.

Fortunately for those who want to build today land costs are only beginning to advance from the low to which they were forced by the past nine years of depression. Informed observers believe that land costs are today at the lowest that may be expected for more than a decade. This is one reason why today is the time to build.

Finding the Plan

THE fundamentals of good planning for moderate cost houses are shown in the drawing on the opposite page. They are reliable guides to plans economical to construct, and to houses easy to maintain, pleasant to live in and readily salable. The plans presented on the following six pages fulfill these requirements. They show how much variety may be had without violating these simple principles. Perhaps one of them will be just what you want—at least they may serve as starting points for developing your own ideas.

Before any plan (or completed house) can be chosen intelligently, you must know what your family actually needs in number of rooms, room sizes, wall spaces for furniture and treasured possessions, and closet and storage spaces. When these things are known and finances have been considered, hunting can proceed soundly. Whether to buy or build demands careful thought. There are five principal ways of acquiring a new home: a brief survey of them may help you decide.

1. You can buy a house already built by some reliable developer or builder. This is the simplest method if you can find just what you want, in a location you like, at the price you can afford. This is the only method that enables you to see the finished product before you buy, but you must be a good judge of construction and property values, and you should satisfy yourself that the hidden parts are as good as the parts you can see.

2. You may buy a set of "stock" plans and specifications and have the house built for you by a reliable contractor. Such plans cost from \$2 per set up to \$5 or more per room; the latter usually are more complete and carefully studied. Bids may be invited from several good builders to make certain that the price to be paid is fair. Extra costs, not covered in the general contract, such as grading, planting, hardware, etc., should be added and the total kept within your budget. A lawyer should prepare all contracts. Some of the many sources of stock plans and specifications are listed on page 8.

3. Stock plans may be obtained through certain architectural groups at prices which include limited but highly desirable professional services, such as minor adaptations of the plan to your special needs, aid in getting bids, preparation of contracts and periodic supervision of construction. This method brings to the owner expert guidance at low cost.

4. The single contract method is used in a number of subdivisions and developments. Under it the developer, or a contractor, undertakes to provide a completed home, ready to move into, for a price set in advance. This includes planning, financing and construction. It demands complete faith in the builder, for the buyer has little control once the contracts are signed.

5. Complete architectural service, from start to finish, has long been proven the most satisfactory method, especially for houses of more than six rooms, or costing above \$7,500. The architect makes sketches, prepares working drawings and specifications, obtains bids, aids in the award of contracts (including the preparation of all contract documents) and finally supervises construction to be certain that the contract is fulfilled. Contrary to general opinion, charges for these services do not add to the cost of a house. The Federal Housing Administration allows architect's fees as a proper cost of a new property.



*Across the
Publisher's Desk*

I BELIEVE you will be happier . . . you yourself . . . your family . . . that YOU will know a pride of possession . . . an increased prestige among friends and neighbors . . . a satisfying sense of security . . . ALL when you build a HOME OF YOUR OWN.

I believe, too, that your community will benefit . . . for your home and all that goes with it is the very warp and woof of community life . . . yes, it even helps the welfare of our great nation . . . so you can invest profitably on the long—not the short—side of America through owning your own home.

Our code is simple. While this publication should be a sound economic enterprise, its first obligation is to give you full information and sound counsel on every phase of home-making. We want to help you realize your dream . . . so that your home, properly financed, well designed, soundly built with modern equipment, decorations and furnishings will be a life-long satisfaction to you—and yours.

I have told hundreds of manufacturers and dealers that you, and the million other Americans who want to know the joys of home-ownership, are a real challenge to them . . . a challenge to give you better products—better materials, at better values that will impel you to put HOME OWNERSHIP at the top of your "MUST" list . . . and further, to work together to give you, through these columns, complete data about these products, materials, values and their place in the complete house.

Many individual manufacturers and associations, such as American Gas Assoc., Edison Electric Inst., National Electrical Manufacturers Assoc., National Small Homes Demonstration, Portland Cement Assoc., Structural Clay Products Inst., have accepted this challenge . . . and you will find herein the first fruits of their labors. Others to be commended are the American Institute of Architects, The Producers' Council, the United States Chamber of Commerce and its local branches, the Pierce Foundation. Each in its own way is helping mightily this great building industry to reach its objective of more and better homes for more American families.

W. Wadsworth Wood

SMALL HOME BUILDERS YEAR BOOK 1938-1939

a publication of National Small Homes Bureau, Inc., Executive and editorial offices, 572 Madison Ave., New York. W. Wadsworth Wood, President and National Director; John F. Gowen, Vice President and Managing Director; M. Wood, Secretary.

JOHN F. GOWEN WILLIAM EDGAR TYLER S. ROGERS
EDITOR FISHER CONSULTING EDITOR
ART DIRECTOR

THE COVER

The attractive young couple holding the model of their dream home is from the brush of McClelland Barclay, noted American illustrator. The model house is shown by courtesy of Ladies' Home Journal, Philadelphia, Pa.

ACKNOWLEDGMENT

is made to the many persons who contributed so much in so many ways to the preparation of this book. Thanks are due particularly to The Washington Post, Washington, D. C., and Business Week, New York, for their courtesy in supplying basic data on building costs, rents, etc.

22' 2" x 31' 1" 45° 90° '8" = 1' '6" = 1' 5' 4" $\frac{21}{4}$ 1' 6" 1" 3' 1"

Design Your Home

TO MEET YOUR NEEDS

Rectangular shape means minimum number of corners.

Bath and kitchen plumbing grouped for economy.

Stock Millwork (Windows, Doors, and Cupboards etc.) for economy.

Spaciousness of Living Room increased by Dining Alcove.

Standard heights of lumber from ceiling.

DINING ALCOVE

KITCHEN

LIVING ROOM

BED RM

BED RM

Wall space in Bed Room arranged for furniture. Bed has to have privacy and cross ventilation.

No waste space in plan.

Plenty of storage.

Back Door near Food entrance.

Entrance has direct privacy to Living Room.

Enough wall space for furniture in all rooms.

House plans are built to living room convenience, best view and maximum sunlight.

Nineteen Designs FOR SMALL HOMES

YOU can get plans for any of the homes on the next 6 pages by writing to National Small Homes Bureau, 572 Madison Ave., New York. Or if you want to deal direct—

HOUSES 1 to 7, and 9—Complete plans, including ways of enlarging each house, can be had through your local lumber dealer, or from National Lumber Manufacturers Association, 1337 Connecticut Ave., Washington, D. C.

HOUSES 8, and 15 to 19—can be obtained from State and Regional Lumber Dealer Associations, through your local lumber dealer, or from National Retail Lumber Dealers Association, Union Trust Building, Washington, D. C.

HOUSES 10 and 11—can be had from Structural Clay Products Institute, 1427 Eye St., Washington, D. C.

HOUSES 12, 13 and 14—can be obtained through the Portland Cement Association, 33 W. Grand Ave., Chicago, Ill.

When writing for any of these plans BE SURE YOU GIVE THE NUMBER

OF THE HOUSE and also say "ON PAGE . . . OF SMALL HOME BUILDERS YEAR BOOK, 1938-1939 EDITION." This is necessary because the identification numbers do not correspond with other designations of these plans.

Among other Plan Services that can supply good small house designs readily financed under the FHA Program are:

American Builder, 105 W. Adams St., Chicago, Ill.

American Lumberman, 431 S. Dearborn St., Chicago, Ill.

Architects' Small House Service Bureau, 1200 2nd Ave., Minneapolis, Minn.

Federal Home Loan Bank System, Federal Home Loan Bank Bldg., Washington, D. C.

Ladies' Home Journal, Philadelphia, Pa.

National Plan Service, 1315 W. Congress St., Chicago, Ill.

Woman's Home Companion, 250 Park Ave., New York.

HOW MONTHLY PAYMENTS ARE FIGURED

The houses on pages 9-14 are priced with approximate monthly payments under the FHA Plan (see page 20). These have been figured from estimates (in some cases actual costs) of labor, materials and builder's profit, as well as average taxes. Financing costs and land values are not included. It is assumed that the latter are equal to the down payments.

To get the Approximate Cost of any house, multiply Monthly Payment by the following factors: For Houses Nos. 11 and 12 multiply by 117.0; for all other houses multiply by 112.4.

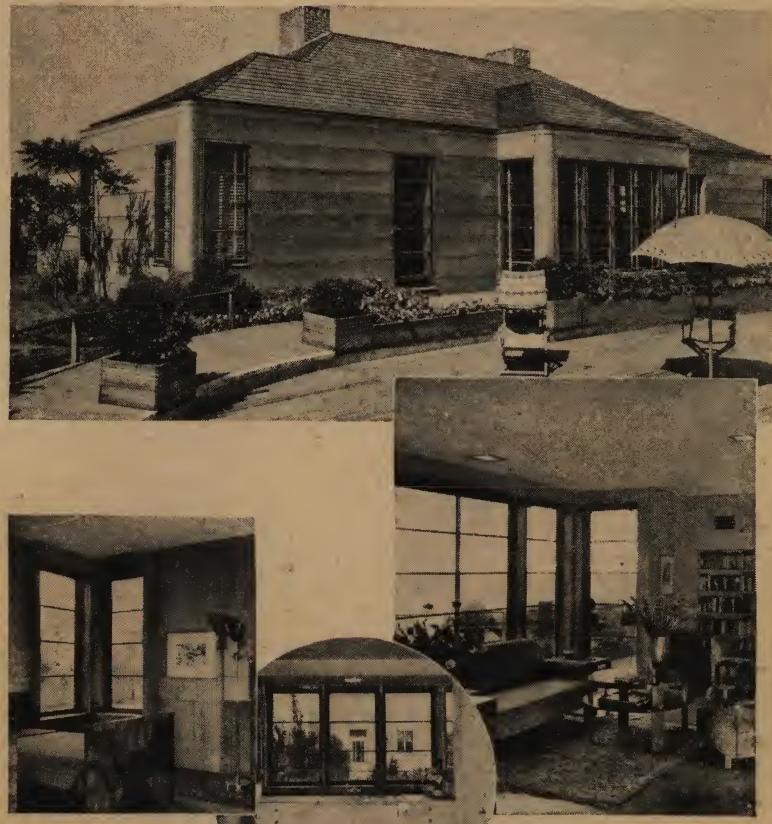
While these figures vary widely in different localities they will help determine how much house you can get for your money. But they should not in any sense be regarded as estimates or statements of cost; and should be carefully checked by your local builder, architect, or other person familiar with local building conditions.

Spacious windows MARK GRACIOUS MODERN HOMES . . .

● The modern trend is toward light, airy, sunny homes—that means more windows, larger areas of glass.

The ever-growing interest in generous use of glass has led to new and beautiful forms in architectural design and decorative treatments of windows. From attic to basement, corner windows, dining alcoves, picture windows and flower windows reflect this modern age of glass.

In building a new home or remodeling your present home, it is most important to use Quality Glass because clearer, brighter Window Glass affects your entire outlook. Because of an exclusive manufacturing process, L-O-F Window Glass is noted for its greater freedom from waviness and distortion, and costs you no more than ordinary window glass. When you buy, be sure to look for the L-O-F Label of Quality on every pane of glass. It is placed there for your identification and protection. Libbey·Owens·Ford Glass Company, Toledo.

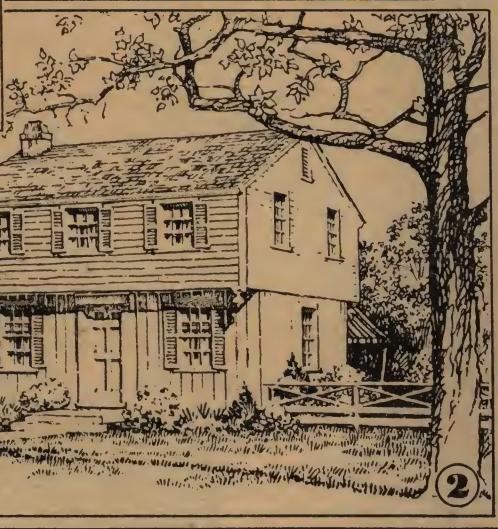
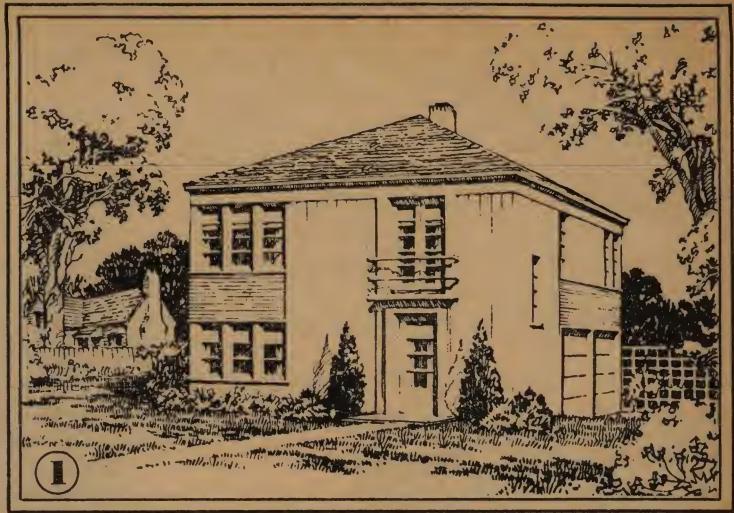


LIBBEY·OWENS·FORD QUALITY GLASS



SEMI-MODERN STYLE with basement built above ground and used for living quarters, thus saving the cost of unusable space below ground. An unusual house because the living room is on the 2nd floor with 2 bedrooms and a bath. The 1st floor has hall, dining room, kitchen, utility (heater) room, and garage. The latter is easily convertible into a third bedroom. Foundation size is 24'x27'.

Estimated Monthly Payments \$23.00 to \$28.00—25 years.

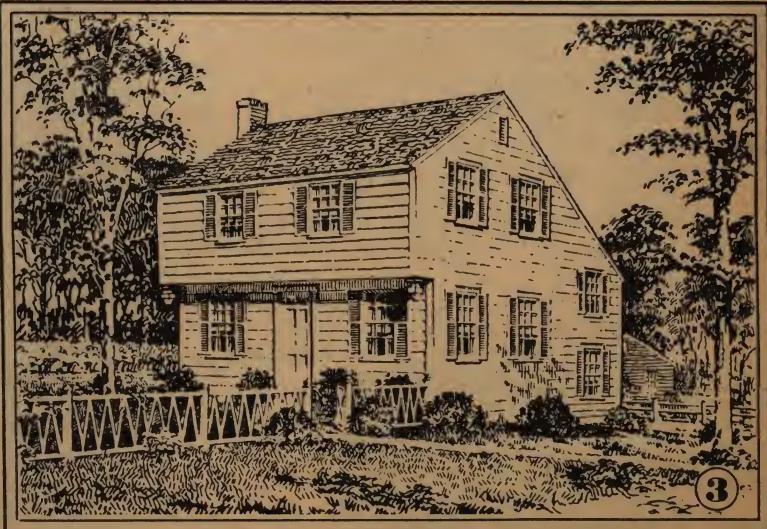


NEW ENGLAND COLONIAL type of 6-room house, which achieves economy by minimizing the cost of excavating for a basement, and by the overhanging 2nd floor. Compact and roomy at low cost, it has kitchen, living-dining room, 3 bedrooms and a bath. A lot of house on a small foundation—16'6"x25'. Estimated Monthly Payments \$23.00 to \$28.00—25 years.



ANOTHER NEW ENGLAND COLONIAL house, compact and roomy at very low cost. There are 6 complete rooms and garage. A 4th bedroom and another bath can be easily built in the unfinished space over the garage. The foundation size is 23'4"x28'.

Estimated Monthly Payments \$24.50 to \$28.00—25 years.





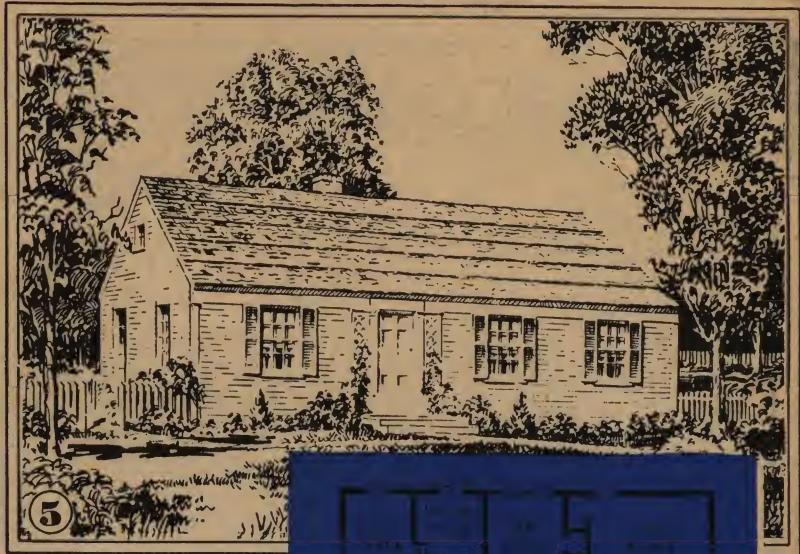
CHARMING TWO-BEDROOM COTTAGE, with variations in exterior treatment that give it an individuality all its own. Extreme efficiency in cost of building and in housekeeping is assured by one floor with 2 bedrooms, bath, kitchen and living room. A stair leads to the heater room in a small basement. Foundation size—22'6" x 29'7". Estimated Monthly Payments \$21.00 to \$24.50—25 years.



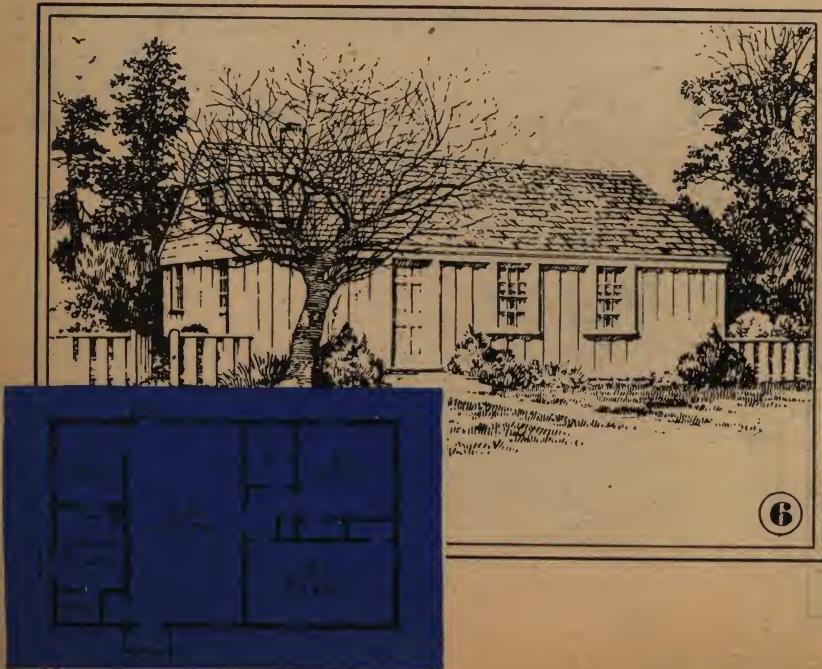
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SMALL COTTAGE-TYPE with 3 bedrooms, bath, living room, kitchen and utility (heater) room. No basement, the money thus saved being used to provide more above-ground space. With a foundation size of 22'6" x 38'6" you get lots of house for your money.

Estimated Monthly Payments \$21.00 to \$23.50—25 years.



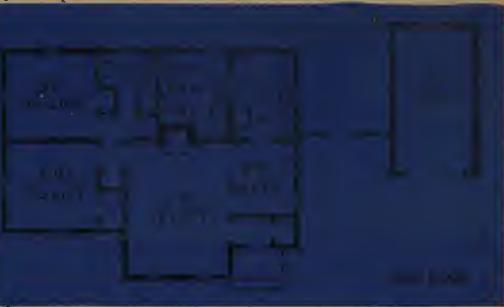
5



6

STUDIO-TYPE HOUSE with living room running right through the center, 2 bedrooms, bath, kitchen and utility room. Interesting in design and plan and admirably suited for a recreation or summer cottage, and for the Southern and Eastern states. Foundation size is 22'6" x 36'8".

Estimated Monthly Payments \$21.00 to \$23.50—25 years.



(7)

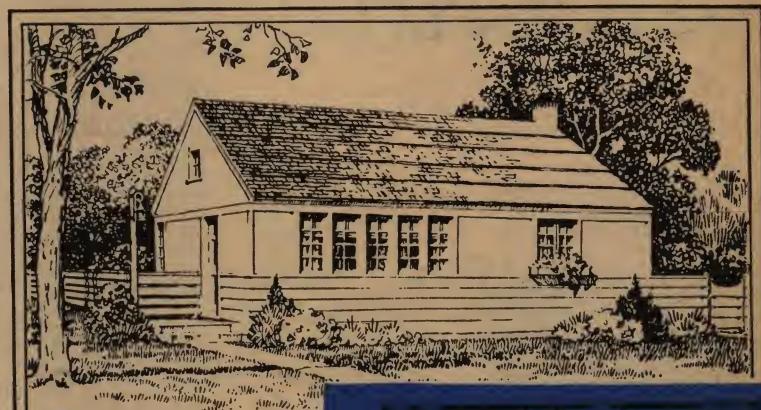
AN ARCHITECTURAL GEM, designed for the family of modest income, this shingled New England type cottage has 2 spacious bedrooms, near the bath, a large living room with fireplace and dinette adjoining a modern kitchen. A heating plant

and laundry in a utility room below the main floor level and between bath and kitchen completes this efficient layout. The garage, 12' from the house, is tied to it by an attractive arbor. Foundation size is 30'x38'.

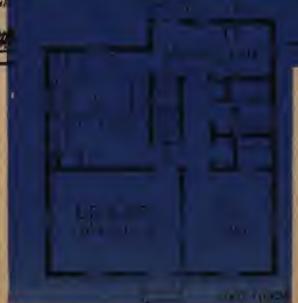
Estimated Monthly Payments \$33.50 to \$40.00—25 years.

"**GARDEN APARTMENT**" fits this economical house with its corner windows assuring good cross-ventilation and plenty of wall space for furniture. The large window in the living room adds spaciousness. There is no basement but a good-sized kitchen and utility (heater) room in which a full heating system can be placed. Of compact design with no waste space this offers the lowest cost standard type 2-bedroom house. Foundation size is 22'10" x 31'.

Estimated Monthly Payments \$17.50 to \$21.00—25 years.



(8)

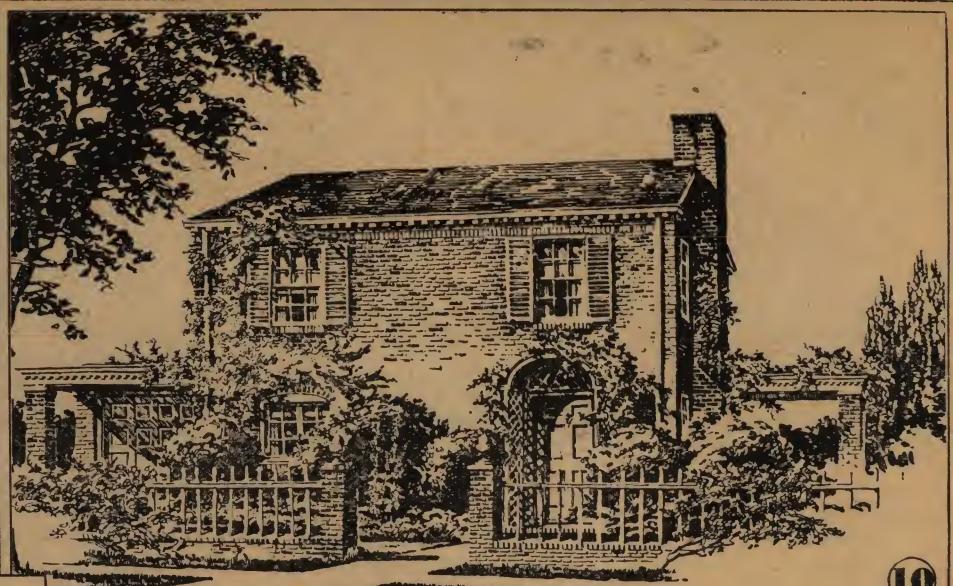
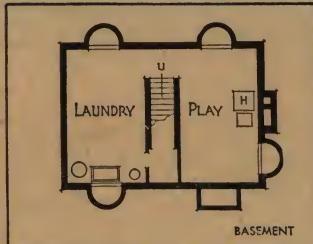


THE MINIMUM HOUSE for bachelor (man or woman) or newly-weds. Though it doesn't have everything it provides maximum accommodations for 2 people at least cost. There is no basement. So arranged that it can be converted to 2 bedrooms or expanded into 3-bedroom house with dining room. Foundation size is 24'6" x 24'6".

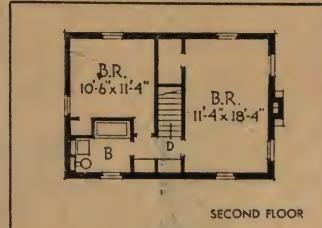
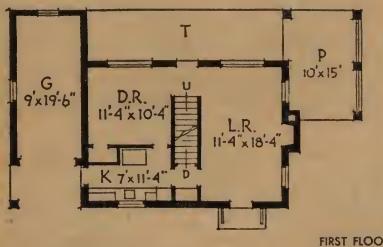
Estimated Monthly Payments \$15.00 to \$18.50—25 years.

PRIZE-WINNING STRUCTURAL CLAY HOUSES

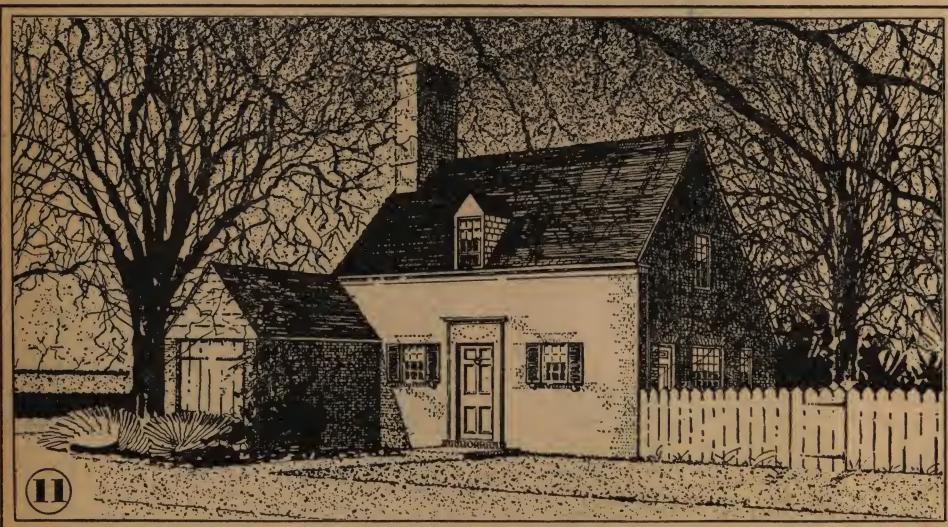
Here are the two prize winners in Structural Clay Products Institute's 1937 Competition to discover current ideas and good architectural practice in the design of moderate-cost homes built of brick.



10

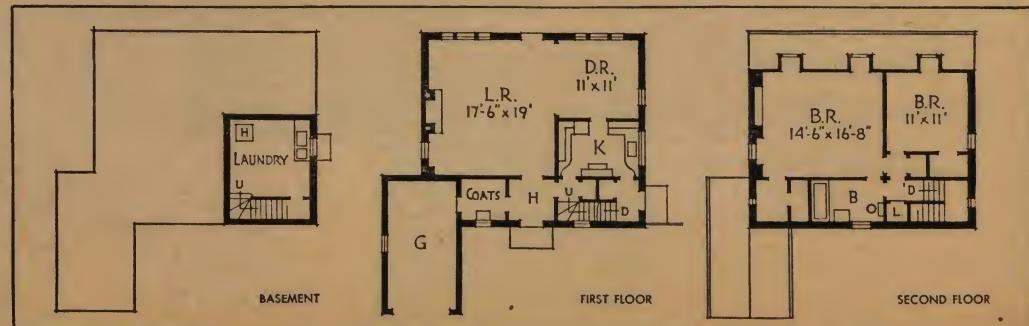


A beautifully studied 5-room house, simple and compact in plan, well arranged, economical to build; garage well placed for front entrance type, shielded and covered entry for inclement weather; simple good American architecture. George D. Conner, Washington, D. C., was the prize-winning architect. Foundation (excluding garage) 20' x 28'. Estimated Monthly Payments \$46.00 to \$50.00—20 years.



11

This prize-winner, by Atwell John King of New York, is a charming small house of Southern style, ingeniously planned to utilize all available space economically. Foundation (excluding garage) 27' x 31'. Estimated Monthly Payments \$61.00 to \$64.50—20 years.



Mr. Conner's design (No. 10) won in Class A—5 rooms, 18,000 cubic feet and Mr. King's (No. 11) in Class B—7 rooms, 24,000 cubic feet.



12

CONCRETE



HOUSES



13



14



Compact but roomy is this modern home built on an open suburban lot at Garden City, Detroit, from plans by Flyod C. Wuerth. Kitchen and 2 bedrooms on 1st floor easily accessible to large utility room and attached garage. 2nd-floor living room opens on balcony. Concrete masonry units, including curved corner pieces to soften the lines, make it clean and fire-safe. Estimated Monthly Payment—about \$32.50—25 years.

The adaptability of concrete construction to any of the popular styles of house architecture is shown in this modified French style home at Chappaqua, N. Y., from plans by Emil J. Szendy. Large storm-shuttered windows set in concrete walls with shallow quoins about the doorway add a feeling of sturdiness and durability. The open plan provides living room, kitchen, bedroom, bath and heater room on 1st floor, and 2 ample bedrooms and bath on 2nd floor, lighted by homey dormer windows. Fire-safety is assured by concrete masonry walls and concrete slab floors. These sagproof floors are finished with fine wood flooring. Estimated Monthly Payment—about \$64.50—20 years.

Another type of concrete home in Orlando, Fla. W. Kenneth Miller was the architect. One-story with 6 rooms and 2-car garage. Small concrete masonry units form walls; added texture obtained by emphasizing joints. Exterior has 2 coats white Portland Cement paint; wood trim finished in natural colors. Furred and plastered walls are effective barriers against heat. Estimated Monthly Payment—about \$46.50—25 years.



N.P.S.
15



N.P.S.
16



A charming and efficient New England cottage with entrance direct to living room. Note the convenience of the work centers.



N.P.S.
17



The dining space in the large window more than compensates for the small bedroom. As in Nos. 8, 15, 16, and 19, the utility is below the main floor level. This arrangement makes this heating unit more efficient.



A tiny vestibule adds privacy to this well-planned layout, with utility room two steps below the main floor.



N.P.S.
18

The long living room is a feature of this plan, which, unlike the others on this page, has the heating unit in the center.

Here are five one-story, no-basement homes following the Cape Cod cottage tradition, which have all the advantages of economy in construction, real livability, and attractive appearance. They will look well on any lot. Each house has living room, kitchen, dining space, utility room (except No. 18 in which the heater is



N.P.S.
19

The square living room is a feature of this plan, which, by compact arrangement provides good-sized bedrooms.

located in a space opening from kitchen and hall), bathroom, 2 bedrooms with closets, a linen closet and a hall. They meet all the basic requirements of good design (see page 7). They can be built, as is, on level ground, at an estimated cost of from \$22.00 to \$24.50 per month, payable for 25 years.

Landscape Planting FOR SMALL HOME GROUNDS

By BEN BLACKBURN*

TREES and shrubs outside the house are just as important as linen closets and furnishings inside. The small home is not complete nor is the investment safeguarded until the landscape blends with it to make a picture that is pleasing and desirable. The expense of beautifying the small house lot need not be much; it averages from 5 to 10 per cent of the cost of the house. Entering into this cost are the landscape plan, grading, top-soil and fertilizers, plant materials and lawn grass seed and their installation.

LANDSCAPE CONSULTANT—Developing a lot without a landscape plan is apt to bring the same unsatisfactory results as building a house without plans. Home owners can make their own plans, but they should never attempt to without long study of the fundamentals of good landscape design. Rather than make mistakes at the beginning, the home builder should employ a competent landscape consultant. The moderate fees of these specialists are just as true economies as the amounts paid for architectural services.

ORDERLINESS AND UNITY—Cardinal points in the small home landscape are orderliness and unity. If every part of the grounds and every plant meet these simple requirements the landscape picture will be harmonious.

SMALL BEGINNINGS—If the total cost of the planting cannot be allotted at the beginning, enough should be set aside to pay for the plan and to make a small start. The landscape plan is vital because it frequently shows the desirability of changes in the house plan—or perhaps a few degrees difference in orientation, to gain the most from a fine tree or a lovely view. A modest start in planting should include shade trees and lawn. If a few plants can be purchased for intimate plantings around the house, the picture will be well on its way; if the work must be spread over 3 or 4 years, the owner will enjoy seeing the picture take shape.

AVOID CROWDING—Good houses require few plants close to them, and well-designed plantings for small areas can accommodate only a few woody plants. Herbaceous perennial and annual flowers are important in supplying color and interest in intimate garden areas (usually at the back or sides of the house), but trees and

shrubs are always the vital parts of the home landscape. Specific knowledge about the ultimate size and habits of these is important, as this will save money spent on unsuitable plants and for more than can be accommodated without crowding after a few years. Many nurseries provide this kind of service. There are also books for beginning gardeners everywhere.

NOT TOO MANY EVERGREENS—Attractive planting cannot result from a bristling array of evergreens crowded around a house. Such plantings may be pleasing at first, but they usually undergo disturbing changes in 5 or 6 years. Modern homes seldom have foundations so unattractive as to necessitate hiding them.

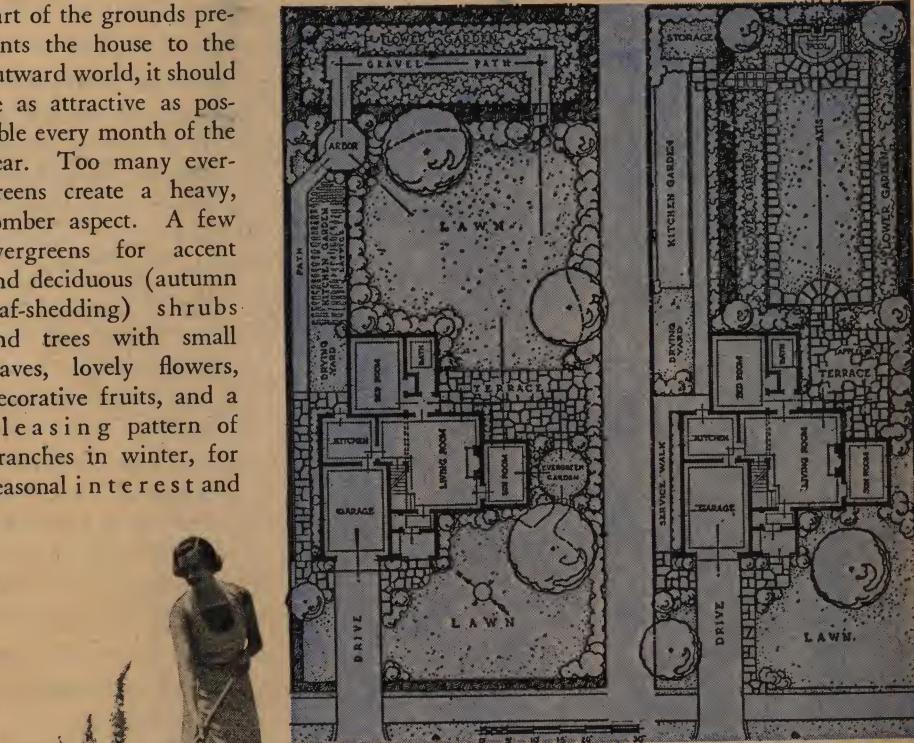
THE FRONT YARD—A few carefully chosen plants to emphasize the doorway and groups composed of one plant, or of three, to soften the corners are all that are required. With this formula the front yard planting becomes simplicity itself. As this part of the grounds presents the house to the outward world, it should be as attractive as possible every month of the year. Too many evergreens create a heavy, somber aspect. A few evergreens for accent and deciduous (autumn leaf-shedding) shrubs and trees with small leaves, lovely flowers, decorative fruits, and a pleasing pattern of branches in winter, for seasonal interest and

character, should make up the well done front yard. The front lawn should be open and unobstructed to furnish a suitable foreground for the house and to make maintenance easy.

THE BACK YARD—Back yard areas should be enclosed; here the family should find it pleasant to rest, to entertain friends, and to garden. Hedges provide green walls which make ideal enclosures, and vines and shrubs trained on fences need even less room. The best place for flowers is in small beds inside these enclosures.

LOCATING THE GARAGE—When the garage is not a part of the house it is best to place it so that the driveway is as short as possible. The idea of giving up a valuable strip of ground to a long drive is outmoded. Perhaps no other factor in laying out the home grounds so well justifies the studied landscape plan.

* Extension Specialist in Landscape Gardening, Rutgers University.



These drawings, used by permission of *Ladies Home Journal*, show possibilities in developing lots of similar depth, and varying width. A slight increase in width will sometimes provide an unusual opportunity to create a much more attractive and spacious design. The drawing on the right shows the formal or symmetrical lawn and garden development.



Courtesy of Erskin Lakes

Vacation Homes ON VACATION BUDGETS

DO you yearn every Spring for a cottage in the country or a camp at the shore? And do you go through that annual search for a "summer rental" cottage someone has advertised, wondering what you will get for your money, and perhaps wondering if you can afford the one that seems most attractive?

Why not make the rent you pay each season to somebody else buy you a place of your very own? It is possible today to buy or build a cottage or camp, and to own it free and clear in five to seven years for what you probably pay out in that period for the place you rent each summer.

Examine the little table below. It tells what you can do under a special amendment to the National Housing Act passed in February, 1938. This amendment to Title I allows the Federal Housing Administration to insure a loan you can get from local bank or mortgage institution for any amount up to \$2,500 for seven years at an exceptionally low interest rate, providing that loan is used to build a useful structure on land owned by the borrower. A camp or cottage comes under this definition. And so also does a guest house, a tenant's cottage or farm building, a garage, or even a wayside stand.

If you now pay \$300 per season for a summer place you can build one costing \$2,000 and pay for it in seven years, or one costing \$1,500 that will be free and clear in five years. If your vacation budget allows as much as \$600 for rent you can borrow the maximum of \$2,500 for construction, and pay it all back in five years. Of course the monthly payments given in the table run all through the year for the duration of the loan; multiply any figure by 12 to find the equivalent total to compare with a season's rental.

To get a loan under this plan you must own your land. The size of the lot depends on whether or not it is served by public water supply and sewerage systems; otherwise the lot size required may range from 4,000 square feet to 20,000 square

feet depending on conditions. There are also definite regulations governing the construction of the building. These are not unreasonable: they require sound construction, good foundations, proper sanitary facilities—all desirable minimums that simply prevent erection of flimsy shacks.

IF your loan will be repaid within five years no security is required; you merely sign a note. If the loan runs for a longer period you may be required to give a mortgage as security, but this varies with different types of lenders. The principal requirement is that you have the ability to meet the payments as they fall due.

No down payments are required. There will be a small cost for appraisal and recording fees, possibly a title examination, and your monthly payments will be increased over those shown in the table enough to cover taxes and fire insurance.

This is the lowest cost loan insured by FHA. Not all bankers will lend on these terms because the return to them is so low. But it is worth your while to inquire of nearby banks and lending institutions, for there is no better way to own the vacation home you want,—this season if you desire—without a major cash investment.

Build a Summer Home Out of Season Rental Costs

Amount borrowed to build your camp or cottage (not incl. land)	Monthly payments to repay entire loan in—		
	3 years	5 years	7 years
\$1000	\$30.65	\$19.50	\$14.73
1500	45.97	29.25	22.09
2000	61.29	39.01	29.46
2500	76.61	48.76	36.82

LAKE GEORGE—Waterfront furnished cottages, modern improvements, large or small \$25 week to \$800 season. Restricted. Get leaflet: Lester Strever, Ballston Spa.

ATTRACTIVE shore cottages in distinguished neighborhood; private beach and pier; golf: \$400 to \$575 season. Dr. M. Putnam, Jamestown.

WATERFRONT modern conveniences: distance in the ocean; fur- grounds; shade trees; garage; secluded longer: \$150 monthly. Jones, 149 Toy- some Lane.

FIRE ISLAND—Conveniences: fur- long until October, \$400. Restricted. Ref- erences. Write Mrs. Mary Cummings, 353 West 57th.

OAK BEACH—low, season \$150. Lester Smith.

GREAT NECK—Attractive, 3 masters, 3 baths, 3 maids; double garage; 3 acres; \$350 monthly. Great Neck 2160.

Pay rent to yourself

UNDER F. H. A. YOU CAN OWN YOUR OWN HOME NOW!



THE FHA HOUSING PROGRAM Insured Mortgages for New Homes

THE amendments to the National Housing Act of February, 1938, encourage the construction of new homes by liberalizing the FHA-Insured Mortgage System. Chief features of the FHA Housing Program are:

1. A small down-payment and a large percentage loan;
2. A long repayment time, making periodic and costly refinancing unnecessary;
3. Steady reduction of principal by convenient monthly payments which include carrying charges and taxes;
4. Investment safeguards — homes are appraised, plans approved and construction inspected by FHA.

FOUR CLASSES OF LOANS

There are now four classes of loans for new one-family homes for owner occupancy, as follows:

Title I Loans

1. Small houses, summer cottages, farm buildings, etc., can be financed up to seven years by insured loans up to \$2,500 without formal security such as a mortgage. The low interest rate (equivalent to \$3.50 discount on each \$100 borrowed) does not make such loans attractive to some bankers, and difficulty may be experienced in finding an interested lender.

Title II Loans

2. For new construction appraised at \$6,000 or less the applicant may borrow

up to 90% of the value of the completed property and may have 25 years to pay, provided the loan is insured before July 1, 1939. After that the maturity is 20 years.

3. On properties valued at between \$6,000 and \$10,000 the first \$6,000 is subject to loan of 90%, or \$5,400, and the balance to a loan of 80%. Such loans can run for 20 years.

4. Properties having a sound value of from \$10,000 to \$20,000 may be mortgaged up to 80% for 20 years.

The maximum loan which FHA will insure is \$16,000.

HOW THE PLAN WORKS

Table B, on page 20, shows how loans under the last three classes (all Title II) are financed, and what is usually required from the applicant in the way of ready cash and income. It is based on the following assumptions: A family can afford a house costing two times its steady annual income; it can spend around 20% of this income for rent; it can borrow from 80 to 90% of the appraised value of the completed property; and beside the down payment or cash equity necessary it possesses enough extra funds to pay all necessary financing costs.

FINANCING CHARGES

Service and financing charges which are provided for by the Act are:

1. An FHA fee of \$3 per \$1,000 of loan for services of appraising, etc., payable when application is made. (Minimum charge \$10.)

Permissible charges by the lender include:

2. The first annual premium charge for mortgage insurance, plus one-twelfth. This runs from \$2.29 to \$4.93 per \$1,000 loan.
3. Cost of title search, usually not less than \$75, sometimes considerably more. This is not always necessary.

4. Fees for recording the mortgage, averaging from \$7.50 to \$10.
5. An appraisal fee running from \$15 to \$25.

6. An initial service fee for inspecting construction and for funds advanced before the project is completed. This varies, according to the service rendered, from 1% to 2½% of the mortgage with minimums of \$20 to \$50.



WHAT IS THE NATIONAL HOUSING ACT?

The NATIONAL HOUSING ACT is the law under which the FEDERAL HOUSING ADMINISTRATION, commonly known as FHA, operates.

FHA does NOT lend money.

FHA investigates and approves lending institutions and cooperates with them by INSURING these lenders against RISKS of long-term low-rate loans for Home Building and for Home Repairs, Improvements and Additions.

The two principal parts of the ACT that concern individual Home Builders or Owners are called TITLE I and TITLE II.

TITLE I covers PROPERTY IMPROVEMENT and MODERNIZATION LOANS and also HOME LOANS in the LOWEST COST Class.

TITLE II covers NEW HOME LOANS, up to \$16,000, made on property that meets desirable standards of design, location and construction.

THE WISDOM OF HOME-OWNERSHIP

There are satisfactions in Home-Ownership that cannot be valued in dollars and cents. You may tie up capital in a house that might earn more money in stocks and bonds, but you will rarely get from such an investment comparable values in stability, pride of possession and protection in times of stress.

Of course there are risks in Home-Ownership. The principal one is the resale value, which depends both on the market and on your judgment in choosing a house that will always be readily saleable. While no one can foretell the state of the real estate market, you can protect your investment by selecting a home that has popular appeal, and by keeping it in good condition. Seldom can an investor in securities so easily protect and insure the future value of his holdings.

The first essential is a good design—architectural good taste and attractive grounds. Second is a good plan—one that meets the needs of the average family and is functionally suited to modern living. Third is individuality and character without freakishness. These will assure a quick sale at a good price.

When the principles of good design, sound financing and quality construction are observed Home-Ownership is a safe investment—and it costs less than paying rent.



See Page 64 for Details \$500 Prize Letter Contest

HOW TO GET A

FHA-Insured Mortgage

HERE, simply stated, is what to do.
1. Choose the Plot and Plan
you want.

2. Get a preliminary estimate from a competent Builder covering all costs for the improvements.

3. Ask a Bank or Building and Loan Association to lend you the amount of money you need in order to build.

4. The Lender then calls in FHA to study and approve your plans.

5. The Lender, insured, then lends you the money you need.

FHA Approval

FHA approval is given if

A. Your income is steady and large enough;

B. Your credit is good—that is, you are able to meet your obligations as they become due;

C. Your house meets certain minimum standards.

FHA Standards

These standards are

A. The design must be architecturally attractive, readily saleable;

B. The construction must be sound, resisting weather and wear and tear;

C. The plan must be practical and livable—not inconvenient or extreme;

D. The equipment must be suited to the house and the neighborhood.

FHA does not like loans on new houses in rundown neighborhoods or in the path of future business or manufacturing.

FHA recommends building in residential areas, with good transportation, near good schools and other civic centers.

FHA likes to see new houses located in sections where values are equal and designs harmonious. Mixing architectural styles, or locating inexpensive houses in expensive neighborhoods, always lowers values.

FHA and the lender have only one way to appraise a house—its quick resale value, and it is this value plus your personal rating on which the loan is made.

FHA Appraisals

When you ask a bank for a mortgage and it turns to FHA to ask if it will insure your loan, FHA makes a careful and complete check on three vital points.

1. The House

An Architectural Examiner studies your plans and specifications to see if the plan is practical, the construction of suitable

quality throughout, and the design attractive and in good taste.

2. The Site

A Valuator looks over the site and the neighborhood to see whether you have picked an acceptable piece of land; one that is physically appropriate for the house you plan to build. He also examines the character of the neighborhood and the houses in it, to be sure, among other things, that the district is not already obsolete; that stores, schools, churches, are reasonably near; that there is good transportation; that there are such conveniences as water supply, sewer, electricity, gas, and public roads; that the tax rate is not too high, with no special assessments to come that will cause financial difficulties.

Appraised Value

Both the Architectural Examiner and the Valuator then appraise the true value of your property as it will be with the improvements for which the loan has been asked. And it is on this appraised value—not what you propose to spend on the property—that the bank loans you money.

For instance, you might want to build on a rocky slope where the cost of excavating for the foundation would be as much as the cost of the house. If you wanted to sell quickly, it would be difficult to find anyone who would pay these extra costs for a house on such a steep lot. Probably you would be fortunate to get back the cost of the house alone.

Mortgage Risk Examiner

And while all this is going on, a Mortgage Risk Examiner is busily checking up on you by examining five points: Your social and credit standing; why you want to buy or build a house; your ability to get and hold a job; your present indebtedness; and the amount of your income and its relation to what you want to invest in your new property.

All these reports go to the Chief Underwriter who makes a final rating that tells whether or not the mortgage will be insured by FHA. In ten days to two weeks you should know whether your application is accepted or rejected by the bank.

In either event, there is reason for satisfaction. If your application is rejected you know that your investment would have been risky. If your application is accepted you can be proud that you and your project are economically sound.

To Mr. and Mrs. Prospective Home Owner

NATIONAL SMALL HOMES BUREAU, INC.

wants to help you get the
HOME YOU WANT

We urge you to use our services freely.

Gladly
Will We

1. Answer questions on all phases of home-making.
2. Get for you literature on any products in which you are interested.

PLEASE USE THE
COUPON ON PAGE 64
for Booklets About the
Products of
OUR ADVERTISERS

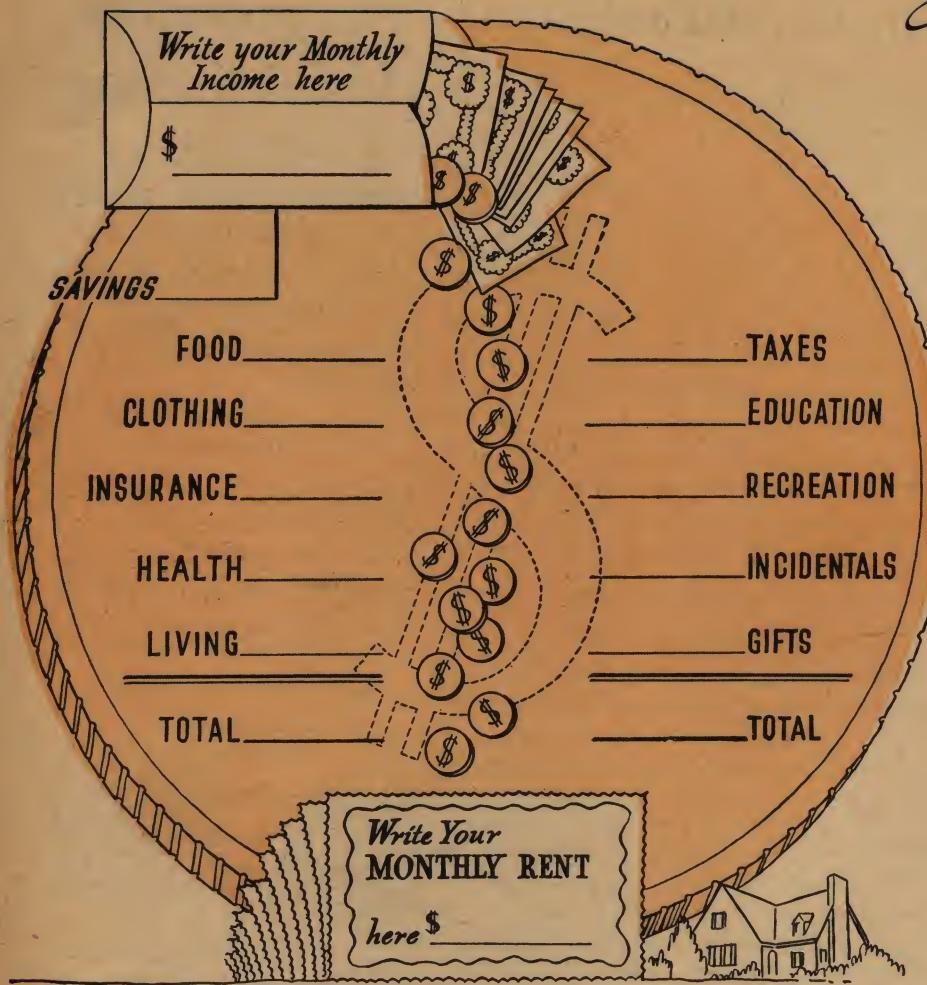
3. Put you in touch with reliable PLAN SERVICES that have good SMALL HOUSE PLANS.
4. Give you the names of Builders, Lumber Dealers and Building Supply Dealers near you where you can examine plans and discuss details with experienced people.
5. Send you a list of Financial Institutions near you, approved by FHA, if there is none in your town.
6. Send you a list of Financial Institutions, near you, operating under the Federal Home Building Service Plan.
7. Tell you the names of architects in your vicinity who are experienced in Small Home design.

Just Write Us at
572 Madison Avenue
New York, N. Y.

BE SURE TO ENTER THE

\$500 PRIZE
LETTER CONTEST
SEE PAGE 64

How Much



HOW TO USE THIS CHART

- Analyze your Income and Savings as suggested on the opposite page.
- Write your Steady Monthly Income in space indicated.
- Write your Present Monthly Rent in space indicated.

Note 1: If this now includes operating expenses like heat, water, electricity, etc., deduct their cost if known or take off 15 per cent to estimate amount paid for shelter only.

Note 2: If not a rent payer, find the percentage of your income you should normally allow for rent in TABLE A and multiply your income by this. Local differences make Table A useful only for preliminary estimates. Actual figures, based on studies by U. S. Bureau of Labor Statistics, are available for 32 cities. National Small Homes Bureau will be glad to supply data.

- On Line 1 of TABLE B find figure nearest to your rent. Below on line 4 you will find how much house and lot you can afford to own for the RENT YOU ARE NOW PAYING.
- On Lines 2 and 3 you will find how much READY CASH you need to get this house.

TABLE A

Yearly Income	% for Rent
\$1,000 to \$1,499	20
\$1,500 to \$1,999	18
\$2,000 to \$2,999	16
\$3,000 and over	15

TABLE B—HOW MUCH HOUSE FOR YOUR PRESENT RENT

1. If You Are NOW Paying a Monthly Rent of:	\$15	\$20	\$25	\$30	\$35	\$40	\$45	\$50	\$60	\$70	\$80	\$90	\$100
2. And Have CASH, or LAND Worth:	190	250	315	370	435	490	560	600	800	1000	1250	1400	2400
3. And, To Meet Costs Of Title Search, Recording Fees, etc., have, as ADDITIONAL CASH:	140	150	170	185	200	215	225	240	270	285	310	340	370
4. You can Have a House and Lot VALUED at:	1890	2450	3115	3670	4335	4890	5560	6000	7000	8000	9250	10,000	12,000
5. By Borrowing from Your Bank, or, of the Total Appraised Value:	1700	2200	2800	3300	3900	4400	5000	5400	6200	7000	8000	8600	9600
6. And You Can PAY OFF this Loan in up to:	90%							90% of first \$6,000 80% of balance			80%		
	TWENTY-FIVE YEARS							TWENTY YEARS					

The data in the above Table are Approximations based on assumptions of Typical Conditions. However, as Local Taxes, Insurance Rates, Costs of Title Search and similar expenses show wide variations in different localities, it should be understood that the figures present a picture of HOW National Housing Act (FHA) financing works, and NOT a statement of actual financing.

House CAN YOU AFFORD?

*The man who builds, and wants wherewith to pay,
Provides a home from which to run away.*

EDWARD YOUNG (1683-1765)

IT is easy to work out a sound plan for financing the home you desire. The chart and table on the opposite page eliminate all difficult figuring.

Two things determine how valuable a property a family can safely afford: its savings in cash (a part of this may be in the value of land already owned) and its steady income. Both must be considered: each has a limiting effect on the other.

Modern financing methods are based largely on the borrower's ability to pay for the loan within the time agreed upon. These payments must be made regularly, usually every month. They include interest on the money borrowed, taxes and insurance on the property and an amount that will pay off the amount borrowed.

If the family has been renting a home, and has found that it can live within its means while paying its present rent, it is obviously possible to spend the same rent money for the purchase of a home. In fact, if that family is also able to save a little in addition, part of these savings can be turned into home ownership, for a home is a financial safeguard somewhat like a bank account.

Of course, what the present rent covers is important. If it is for a heated apartment and includes light, water and similar operating expenses that are not included when one rents a single house, the present rent must be divided and only that part counted which pays for the shelter itself. This may be done by estimating what it costs to provide heat, power, water and similar services; but as this is often difficult, it will usually be safe to take off 15 per cent of the present rent and count the rest as being what one would pay for a house.

This "net" rental should be entered in the chart. If you want to check your entire budget, or if you do not have enough data to estimate your rent allowance in the manner suggested, the chart provides for a complete analysis of your monthly income, starting at the top of the page. However, this "breakdown" of your monthly income is not necessary; the net rental figure is all that you need.

If you have not been paying rent or have no other means of determining what you can afford to pay monthly for a home, the

figures in TABLE A may help. They show national average expenditures for shelter in different income classes. These vary widely in different sections and at best are only to be used for rough estimates.

Once the safe monthly payment has been determined it may be applied to TABLE B, by finding on the first line the figure near this amount. The TABLE should then be read down.

Line 3 shows how valuable a property that monthly payment will finance safely, if other factors are satisfactory. As a check, Line 6 will show approximately what total income the family should have (based on the theory that the average family can own a house worth twice its income). This is a conservative check; the total value may sometimes exceed this amount.

The other controlling factor, cash, must now be considered. No banker will assume all the risks of home ownership for others. The borrower must have demonstrated his ability to save and to live within his income by having some cash or its equivalent. He must be ready to take at least as much risk as the lender.

Cash must be available for two purposes. The first is for the down payment or the owner's "equity" in the property. This may be land instead of cash if the site is acceptable to the FHA or the lender as suited to the house to be built.

The second is to meet financing costs at the start, as explained in detail on page 17. The latter are expenses that do not add to the value of the property like the former; they cannot be included in the amount to be borrowed.

Now TABLE B can be used again. Line 2 shows how much cash, or its equivalent in land, must be available to the borrower as his share in the venture at the start. Line 7 shows approximately how much additional ready cash is needed for preliminary expenses and financing charges. Line 4 shows the approximate amount that can be borrowed and Line 5 the maximum number of years the loan may run.

Other factors that cannot be tabulated may enter the problem, but the use of this table will serve as a guide in estimating the value of a property which a family can afford to own. The lender will want to



Courtesy of United States Building and Loan League

House on which first loan was placed in 1831 by first Savings, Building and Loan Ass'n in United States. The purchaser borrowed \$375 and paid back \$3 a month to include principal and interest.

make reasonably certain that the family's present income will continue during the life of the loan. A young family, with good prospects, may be allowed the maximum time of 20 to 25 years, but a man of middle age whose earning power may cease in 10 or 15 years, will be required to make larger payments in order to retire the loan out of his assured earnings.

Good sense dictates that not all of the family's available reserves should be pledged for the acquisition of a home. There is always need for a nest egg in case of sickness or other emergencies. If one is building, rather than buying at a fixed price, there is a chance that unforeseen extra costs will be encountered. There is the expense of moving to allow for, and in all probability there will be need for new furniture, rugs, draperies and other fittings to make the new home attractive. The construction contract itself may not include everything; very often grading, planting, driveways, hardware, lighting fixtures, screens, shades, storm sash, awnings and similar finishing touches are left out, for the owner to supply without paying the general contractor a profit for handling them.

The logical thing to do, of course, is to make up a careful budget of every possible expense that can be anticipated. After the essential reserves are set aside, the amount left can safely be applied to the down payment or equity. With such reasonable foresight, the home-owning venture is bound to be safe and wholly enjoyable.

The Federal Home Building SERVICE PLAN

ONE of the most important governmental agencies working for the benefit of small-home builders, seeking to help them get maximum loans from lending institutions, is the Federal Home Loan Bank Board. It has developed a building service plan which has many features of interest to anyone who is planning to build.

The Federal Home Building Service Plan was developed to assure the small-home seeker a good building and a well-protected investment. It is the result of the experience of the Home Owners' Loan Corporation, which found, as the result of its operations to refinance mortgages in danger of foreclosure, that shoddy construction forced it to recondition nearly half of the million homes it sought to save in order to make them good security. Aroused to the evils of such construction, the Board sought to link all elements of the industry to eliminate such practices.

At the same time the Board felt such a plan was essential to protect both the lending institutions of its Federal Home Loan Bank System and the HOLC, which has over \$200,000,000 invested in shares of those institutions. With low interest rates and amortization loans being granted for 15 and 20 years, sound and unquestionable security was an obvious necessity.

Complete Service in One Package

Under the PLAN, the most important feature of which is that lending institutions and architects are joined together to give small-home builders services ordinarily available only to persons of ample means, the home-buyer, instead of being forced to "shop" for wares in a market with which he is unfamiliar, is now offered, in ONE PACKAGE

Sound financial counsel;

The largest loan and most liberal terms consistent with his resources and credit;

Competent architectural aid in designing his home;

A structure suitable to his family needs, his building site and his neighborhood;

A properly qualified contractor;

Specifications listing proper materials and a careful check on those materials;

Competent supervision of construction;

A Federal Certificate of Registration, stating that his home has been built under the Plan, thus increasing investment security and resale value.

Houses for Resale

The PLAN is available for builders of houses for sale, of course, as well as for the individual home builder.

A Local Enterprise

The PLAN is essentially a local enterprise, financed and directed by local capital. Only approval of lending institutions, architects, and of house plans is under the jurisdiction of either the 12 Regional Banks or the Bank Board in Washington.

360 Small Home Designs

Of the nearly 4,000 member institutions of the Federal Home Loan Bank System, at present over 170 institutions, in 53 different communities, have been approved, and over 250 architects have enlisted in the program. *More than 360 small home designs, all of acknowledged merit, are available*, and more are being added steadily.

FHA Insured Loans

The PLAN is in use by institutions which make loans insured by the Federal Housing Administration, but otherwise there is no connection between the Federal Home Loan Bank Board and FHA. It should be clearly understood that *the member institutions of the Bank System make loans to individuals for the building of homes*. FHA only insures loans; it does not make any itself. Nor is there any connection between the savings and loan associations which are members of the Bank System and national mortgage companies.

Liberal Loans at Low Rates

All members of the Bank System make liberal loans at low interest rates, the size of which, compared to the appraised value of properties on which they are made, depends on the charters of the lending institutions. For instance, federal-chartered institutions are allowed to make 90% loans if insured by FHA, and if their shareholders conform to rules laid down by the Board. State-chartered institutions which are members of the Bank System must, however, also conform to their charters.

Plan Benefits Entire Industry

Although the PLAN has as its basic objectives protection for the small home builder and safeguards for lending institutions and their investors, obviously its benefits apply equally to all factors of the building industry. Architects are able to provide designs and supervision at modified fees which are included in construction costs. Insistence upon the use of quality materials and high standards of construction increase the market for responsible building supply dealers and for reputable builders and contractors. Economies in construction methods more than compensate the home owner for the technical fees included in construction costs.

Endorsed by A. I. A.

The Plan has the endorsement of the Directors of the American Institute of Architects, for it provides a means whereby the architect, whose service and experience is recognized as invaluable to the small home builder, is brought into the small home field on a mutually beneficial basis.

To Get This Service

To avail yourself of this service, go first to a local loan association which is a member of the Bank System. There you will find a supply of home designs, either drawn by local architects or specifically chosen because of their adaptability to your community—in no sense the old stock plans. Selected architects will alter them, if necessary, to your needs and desires.

If, however, you have a plan of your own, it will be examined and you will be told if it complies with the standards under which the lending institution is willing to finance you. In either case, you will be provided with the necessary technical assistance, aid in getting estimates from competent contractors and other helps which will assure you the largest possible loan.

Supervision Assures Quality

Once construction is started, an architect will supervise the work, seeing that specifications are carried out, that good materials are used and *properly installed*. Thus you have assurance, as far as possible, that you are getting the home you are paying for—a home which is a sound investment and which, because of good design and construction, will keep your maintenance cost at a minimum during the years you are amortizing your loan.



Good Construction

**IS VITAL TO
YOUR VENTURE
IN HAPPINESS**



GOOD BUILDERS FOR GOOD HOUSES

Now that you have decided the kind of house you want and how you are going to pay for it, the next thing is to make sure that it will be well built of materials that are suited to each other and that will withstand the ravages of wind and weather.

In this age of scientific investigation and proving of materials you can use the trade-marked products of manufacturers of national reputation with confidence that they are every bit as good as represented.

You should, of course, choose with care. In so doing you will need advice, for the layman does not know the fine points about lumber, paint, insulation, roofing, window glass, etc. Nor can he know how materials are properly fitted together. The fact that you have good insulation does not mean that your heating bill will be low. It all depends upon installation. Talk with, and heed, your lumber or building material dealer, or your architect. They know.

Your house will be only as good as your builder. His standing in your community is based on his knowledge of adequate construction and quality materials—not low estimates. The day of the jerry-builder is past.



See Page 64 for Details \$500 Prize Letter Contest

The Fundamental Ingredients OF THE WELL-BUILT HOUSE

MOST people define their ideal house in terms of its principal exterior materials: a red brick house with a slate roof, for example, or a white shingled house, or a stucco house. Thus they reveal their inherent love for some particular type of construction—a type, no doubt, that recalls some earlier environment or some particularly delightful home they would like to reproduce.

It is fortunate that there is no question about the worth of these many favored construction materials. All of them make a good house, if properly employed; the choice between them depends on preference, budgets and fitness to the style.

But each material used in building construction has its own characteristics, advantages and limitations. No one material is perfect under all conditions, nevertheless for each condition of design, pocketbook or locality there is always one material that is best suited to the job. The task of the architect or owner is to choose what is best for his particular project.

It may seem almost a hopeless task to choose wisely among the vast number of traditional and new materials now available for homes. To simplify this task there is summarized in this article some of the more important things to think about when choosing materials for various parts of the structure.

Basement

Foundation walls should be built of whatever material has locally proven satisfactory in view of soil conditions (wet or dry), strength, cost and good appearance. Today appearance of the interior surfaces becomes important because basements are made useful for recreation and hobby rooms. The cellar floor should be waterproofed and hardened for the same reason.

Termite Protection

Wherever termite infestations have appeared it is wise to take precautions against their entrance into a new house. All wood members should be kept 8" above the ground level. A copper or lead shield on top of the foundation walls, protruding 4" out on either side, is usually effective. Timber in sills and first-floor joists may be treated before installation to make it resistant to both termites and decay.



Copper & Brass Research Ass'n.

Installing a copper termite shield. The light streak on the right shows the projecting lip that insects cannot pass.

Exterior Walls

Here the choice is largely governed by personal preference, style and cost. Valuable pointers on wood frame construction are given in a separate article on page 31.

When masonry construction is desired, the first choice to be made is between a veneer of masonry over a wood frame and solid masonry—the latter term including all-masonry walls of hollow type. Veneers of brick, cut stone and stucco are practical if the wood frame is of "balloon" construction as described elsewhere in more detail. With solid masonry it is wise to make certain that the interior "bearing partitions" on which the floors rest are designed for minimum shrinkage. Modern steel joists used with solid masonry walls make an excellent rigid and firesafe construction.



Brick Mfrs. Ass'n. of New York

Hudson River common brick laid on edge in Flemish bond with broken headers make a rugged texture.

Brick masonry may be of brick throughout or with a facing of brick bonded to a backing of structural clay tile. Stone is difficult to use unless there is a local form which lays up well and has the right scale and texture for the style of the house. Stucco is in itself a veneer; it may be applied to metal lath on a wood frame, or better (because all masonry) on scored structural clay tile or some form of cement block or solid concrete.

Cinder concrete masonry units in the new "ashlar" forms make a decorative, stone-like wall of good structural value. Walls of solid concrete, though excellent for foundations, are not used generally for small houses because they are unnecessarily strong and massive.



Portland Cement Ass'n.

Varied sizes of cinder concrete block form attractive patterns. Top — Uncoursed ashlar. Left — Coursed ashlar.

All exterior walls, whether of wood or masonry, should be insulated with appropriate insulating materials. It is a popular but erroneous belief that masonry walls are warmer in winter and cooler in summer than wood walls. Often the reverse is true.

Insulation is discussed in a separate article (Page 36) because of its importance.

Roofs

Again the choice of materials may be governed by preference as much as by style and cost. Wood shingles hold top place in preference and use because they combine beauty, low cost and, when periodically treated, have longer life and greater fire safety than is generally appreciated. Slate and burned clay tile are other standbys that have stood the test of centuries.

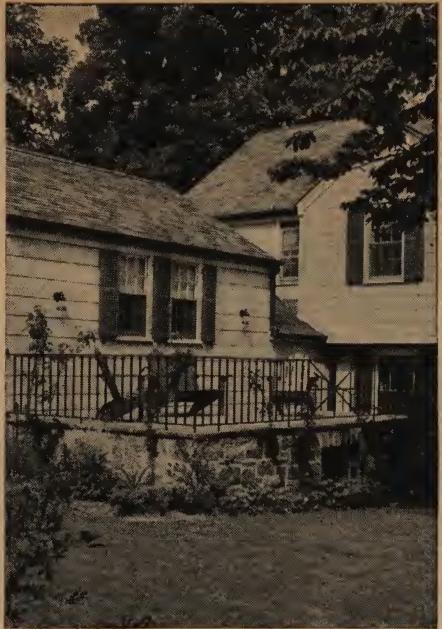
Among the newer materials asphalt shingles lead in the low-cost, medium-life group and asbestos-cement shingles in the medium-cost, long-life group. Both types have been notably improved in texture, design and color in recent years.

It is also worth noting here that manufacturers of these materials have developed sidings—for house exteriors—that have to recommend them attractive colors, designs, and textures, reasonable permanency, and low first costs.

Metal roofing, particularly the sheet metal kind with "standing" seams carefully spaced down the slope of the roof, has long precedent behind it and is growing in popularity. Copper is made in two weights, 10 oz. and 16 oz. for medium and long life at proportionate costs. Zinc is used in the same manner, while the low-cost tin and galvanized-iron (zinc-coated) roofs of this type seem to stand up well in rural areas remote from the acid fumes of cities and manufacturing plants.

Windows

Perhaps no more important decision must be made than the choice of windows. The trend among designers today is to use windows more intelligently than in the past, increasing their size and number and locating them with more care in relation to furniture placement indoors and outlook from rooms. Modern science knows that



Flintkote Co.

A pleasing combination of thick butt asphalt roofing shingles and waveline asbestos siding.

windows should be planned for double glazing in winter to reduce heat loss and drafts. It knows that weatherstripping is

worth far more than it costs in fuel savings and freedom from dust and drafts all year around. Designers know that full-length screens are essential in almost every part of the United States. And so modern windows have been vastly improved to provide these essentials.

Advances in double-hung windows (that slide up and down) include spring balances, flat weights, and various friction devices all designed to save large frames and permit the use of narrow trim, inside and out. The better grade windows come all equipped with efficient weatherstripping, and with provision for full length storm sash and screens.

Casement windows in both wood and metal are now made with interchangeable winter storm sash and summer screens and with integral weatherstripping.

Combine these improvements with modern flat, high-clarity window glass and the new types of window hardware and it becomes evident that the home owner of today can have much more charming and satisfactory eyes for his house than were available in the past. To say nothing of

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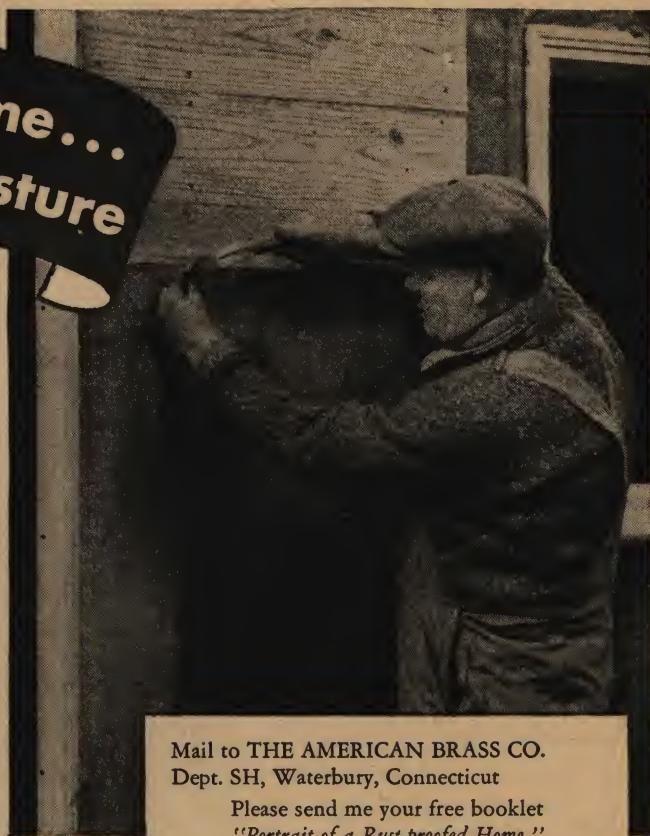


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Bringing the outside in. A beautiful expanse of gleaming polished plate glass captures an outdoor scene and makes it a marching mural painting.

the possibilities that lie in picture windows, flower windows, bay windows and other delightfully decorative and architectural features!

Doors

Three new developments in doors are worth special mention. First is the introduction of stock doors and doorways designed by leading architects that offer the quality of fine custom work at stock mill prices. Second is the rather recent development of low cost "flush" doors of light, hollow construction. These have great decorative quality through their very sim-



Libbey-Owens-Ford Glass Co.

Corner windows with brilliant surfaces of polished plate glass, meeting at right angles, brighten interior corners and allow more wall space and an intriguing view.

plicity; they are adapted to modern as well as period styles. The third is the production of doors with interchangeable panels that become screen doors in summer and glass-paneled storm doors in winter.

Glass Block

While on the subject of openings in walls, thought should be given to the possibilities inherent in glass block. They form translucent walls that are weather-tight, self-insulated and of high decorative and illuminating quality. They do not take the place of windows for the provide neither ventilation nor outlook, but they can be used structurally to admit light at

places where a window would not be appropriate. Imagine, for example, a basement play room lighted largely by foundations made of glass block between load-carrying piers of solid masonry.

Caulking and Flashings

Every opening in outside walls, every change in roof level or direction and every break of any sort in the continuity of the exterior surfaces of a house presents a potential weak spot through which wind and rain may enter. To prevent air leakage around door and window frames these joints should be caulked with a suitable plastic compound forced into the cracks. Caulking does for frames what weather-stripping does for movable sash and doors.

Flashings are strips of waterproof material, usually a durable metal like copper or lead, inserted in vertical walls to help shed water around openings and at intersections with any horizontal or sloping surface. They are needed over window and door-openings, where chimneys join gable ends or project through roofs, and where porches and wings join the main walls. Similar strips or sheets of metal are needed in the valleys formed where two roof slopes meet, at the eaves of all roofs and wherever water, ice or snow may collect. Upon these details depends the weather-tightness of a house.

Interior Finishes

Indoors the first decision to be made relates to the materials to be used on walls and ceilings. Shall it be plaster, one of the many new types of wall board, some special sound absorbent product (particularly for ceilings), plywood, or some form of plank or wood paneling? This choice, in turn, is governed by the surface decoration desired: paint, wall paper, wall fabrics, wall linoleum, textured plaster or natural or stained wood. To a large extent these decisions influence the remaining choice of flooring and trim.

Plaster and Lath

The unique advantage of plaster which is not possessed by other finishing materials lies in its ability to provide a smooth straight wall or ceiling over an irregular base. All finishes which are applied in sheets of uniform thickness must have a true foundation of evenly aligned studs or joists, as they will reveal on the surface any irregularities beneath.

Plaster has little strength in itself; it depends upon a rigid structure and a firm, secure base. Wood lath is traditional and, properly installed and covered, offers longevity, sturdiness, and surprising fire-resistance. Metal lath and wire lath both tend

How To Use SMALL HOME BUILDERS' YEAR BOOK

Read all the articles in this book. They were written by authorities. Study the advertisements. They tell the story of the modern home.

Then, with the Year Book under your arm

—Talk it over with your local Lumber or Building Supply Dealer. They know Materials.

—Consult your Gas and Electric Company. Their engineers know Equipment.

—Study the Furniture and Decorations in your local stores, and heed the advice of their Experts.

—Look over all the Plan Books you can find for ideas about economical and efficient floor plans. (There is a list of Plan Services on Page 8.)

—Tell your architect about your Dream House and get his suggestions about design and plan.

—Ask the local Chamber of Commerce about the character and future of the neighborhood in which you think of building. (See Page 5.)

—Confer with your Banker or Building and Loan Association about financing. (See Pages 17-22.)

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FLOORING**

to reinforce the plaster by becoming embedded in it. Gypsum laths, with or without perforations through which the plaster is pressed to form a "key" are stiff and save some thickness in the plaster itself. Fibrous insulating boards made as plaster bases combine insulation value with a support for plaster in one product. The choice between these various bases should be made or confirmed by an expert familiar with the project.

Plaster is usually the preferred material if walls are to be papered or painted, especially if the structural walls are not perfectly true. Similar effects can be obtained with modern plaster boards applied with special reinforcing tapes that conceal the joints and leave a smooth surface.

Wall Boards

are available in almost endless variety. They are made of asbestos-cement for hard tile-like or marble-like finishes, of fibrous insulating materials for softer and often interestingly textured effects, and of gypsum in tile markings or plain surfaces. The latter are often used as a base for interesting textured surfaces produced with plastic paints.

In the same general category falls *Plywood*, which may be used either for natural wood finishes or as a base for paint. Plywoods veneered with rare decorative woods give an appearance of richness far greater than their cost would indicate.

All of these materials have one advantage in common: they eliminate the dampness brought into the structure by fresh plaster and save the long drying period which plaster demands. Most of them, however, require a decorative handling which uses the joints between the units as a part of the design.

In noisy environments it is worth while to take advantage of the new sound-absorbing tiles or sheet products, or even sound-absorbing plaster for ceilings. They have excellent decorative quality and when selected by an expert familiar with the kind of noise to be subdued can do much to alleviate traffic noise or other sounds.

Floors

Advances in hardwood flooring include factory-finished strip flooring that largely eliminates scraping and finishing on the job; parquetry flooring in square blocks that is decorative, durable and moderate in cost; and parquetry or plank floors made up of plywood that permits one to have a surface of rare or costly wood without the expense of solid boards.

The newest trend in linoleum flooring is the introduction of specially designed borders and "inset" or inlaid decorative de-

signs to suit the shape and character of the room. Long favored for kitchens and baths, linoleum has now captured halls, living rooms and even bedrooms in a growing number of homes.

Asphalt tile remains the one flooring that may be used on concrete floors in contact with the ground, as in basements and enclosed sun terraces. On a higher cost level rubber tile offers durable resilient surfaces in a wide variety of colors and designs.

Cork tile is a flooring that compares favorably with the best hardwoods in cost, durability and adaptability. It has the further advantages of being non-skid and non-resonant. Cork flooring comes in three basic shades with many variations, so that it can be laid in attractive and intricate designs or in narrow strips like wood. With the former no rugs are needed because the floor pattern is highly decorative; with the latter, big rugs or small scatter-rugs can be safely used. Recently a permanent finish has been perfected that needs no servicing such as waxing or polishing.



Congoleum-Nairn, Inc.

Floor and wall linoleum has been used with striking effect in this kitchen of a home in an exclusive residential development.

Ceramic tile, in some of its manifold forms, offers top quality in the field of hard decorative floorings. The latter, together with asphalt tile, should be laid on a concrete base; all the others may be laid on wood sub-floors or on bone-dry concrete above ground.

Interior Trim

The same progress reported for doors has been made in interior millwork. Stock patterns by the best architects, following traditional designs and offering acceptable new ones, largely eliminate the need for custom millwork for stairs, hand rails, balusters, cupboards, corner cabinets, fireplace mantels, and all forms of "standing" trim such as baseboards, chair-rails, cornices and window and door frames. A wide variety of selections make certain good taste at reasonable cost.



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If you are building a new home, ask your architect or builder about the many efficient types and attractive styles of winter windows and double-glazed sash available for "Window Conditioning."

YOUR PRESENT HOME...
May have the comfort and saving of "Window Conditioning." Storm windows are easy to install and inexpensive to buy. An estimate from your lumber dealer will convince you.



● Do away with the threat of winter chills...ills...and bills. New comfort, better health and economy are yours with "Window Conditioning." This means you insulate your windows with double-glazed sash or storm windows—two panes of glass where only one was used before. Between the two, a wall of captive air is formed. This air space is one of the best forms of insulation.

Reliable tests show that "Window Conditioning" saves more in fuel costs than any other single form of house insulation. Therefore it is the first form of insulation you should consider. "Window Conditioning" cuts 20 to 30% right off your fuel bill and permits healthful humidity without having windows fogged with excessive moisture which collects on uninsulated windows, soils draperies and rugs, spoils woodwork finishes.

To "Window Condition" your present home, call the nearest lumber dealer today. He can arrange financing under F.H.A. with *no down payment*. "Window Conditioning" is an investment that can pay for itself in less than two winters and dividends accrue year after year.

Quality Glass Is Important—With double glazing, the quality of glass is doubly important since you are looking through two pieces of glass instead of one. Because of an exclusive manufacturing process, L·O·F Window Glass is noted for its greater freedom from waviness and distortion, making it especially suited to "Window Conditioning." These advantages cost you no more. When you buy winter windows or double-glazed sash, make sure that each light bears the L·O·F label. It is your guarantee of quality in window glass.

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4. Makes uniform temperatures easier to maintain throughout the house.
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6. Makes healthful humidity possible without foggy windows, soiled draperies and moisture on window sills.
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*Send coupon for free L·O·F booklet completely describing "Window Conditioning" and containing interesting information on treatment of windows.



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The Secret

OF GOOD PAINTING

Every house uses paint, inside or out, not only when it is built but periodically throughout the years to come. So it is important to know what makes a good painting job—one that costs as little as possible, that lasts long, that looks well, and that makes repainting easy.

Good painting is always the product of three things: (1) a paint of the right composition for the particular job at hand; (2) good painting conditions at the time the work is done; and (3) good workmanship. If you want to simplify that combination you can say that good painting is the result of good paint and good workmanship because an expert painter will never apply paint unless conditions are right.

Buying Paints

The average home owner cannot hope to qualify as an expert in paint because to do so he would have to study a subject of immense technical complexity. So his best recourse is to entrust his entire job to a contracting painter of known skill and good local reputation.

But if you like to delve into such a subject to a somewhat greater extent, it is well to begin with a knowledge of the labor costs. Painting is usually two to three times the cost of the materials. It takes a painter just as long to put on a poor quality paint as to apply the very best materials. Therefore, it is false economy to attempt to save costs by buying cheap paints. And in this freely competitive market you can be quite certain that cheap paints are low grade paints and higher-priced paints are high grade products, when both are made for the same purpose. Paints made for different purposes, as exterior and interior paints, cannot be compared on a price basis.

Kinds of Paint

When buying exterior paints for outside woodwork, siding, trim, etc., the choice lies between the so-called pure single pigment paints and mixed paints. White lead in oil is the only quality pure pigment paint employed in residential work, for white lead is the only material that combines within itself the desired qualities of durability, resistance to weathering, good covering power and slow calking which makes the whole surface easy to repaint.

The better quality mixed paints can be

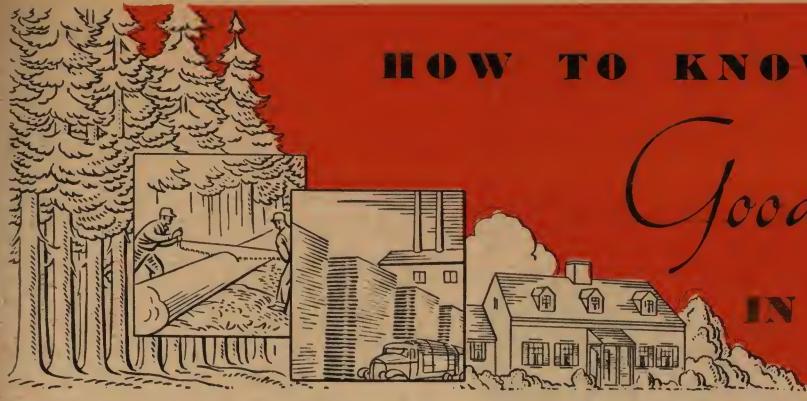
identified by the other elements marked on the label. Zinc compounds are frequently used with white lead to give greater hardness. Titanium compounds will be found on many labels, in combination with lead and usually zinc because titanium is extremely white and has great hiding power. The cheaper exterior mixed paints use these pigments in relatively small quantities and make up the difference with chalks, sands or barium compounds. Read the label on the paint you are buying and compare it with the formulas for other brands that are higher or lower in cost, and with this general information you can usually determine for yourself the approximate grade of the paint offered.

Paint is a temperamental material and will not behave well unless it is applied when conditions are just right. Dampness is the great destroyer of good paint, especially dampness on the surface to which it is applied.

Manufacturers always provide carefully worded instructions for the use of their products and failure to follow these instructions places the blame squarely upon the user. A good painter will take great precaution with the preparation of the surface and will wait until the weather is good (if it is outside work) or there has been ample time for drying out plaster in the case of interior work before he will waste labor and materials under conditions that are bound to cause difficulties.

Exterior paints should be renewed every three to five years, even with good quality materials. The best outside paint wears gradually to a chalky surface that can easily be dusted off leaving the remaining coating firmly adhered to the material underneath. A new coat should be applied before this chalking wears down to the wood. When paint fails in any other way, if by cracking, blistering, peeling, or by excessive and rapid chalking, the old coats should be removed and a new job done as soon as possible, in order to protect the underlying material.

So the cardinal rules for economical maintenance are these: Buy high quality paints from reputable manufacturers; have them applied by an experienced and reliable painter; and repaint before the original coating has worn through to the underlying surface.



HOW TO KNOW

Good Construction

IN WOOD-FRAMED HOUSES

WOODY is by far the most important building material used in house construction today. Upon its proper use depends to a very large extent the quality, durability, fire-safety and market value of a house.

Every prospective home owner, whether he intends to buy or build, will find it helpful to know how to distinguish good design and workmanship from poor, for only with such knowledge can he appraise the soundness of his investment. Fortunately it is not necessary to become an expert to tell the good from the bad. In every house there are a few "key" points that are important; if these are properly constructed, it may be safely assumed that the quality of the rest of the contractor's work is equally sound.

These "key" points are described or illustrated in this article. They have been selected out of many hundreds of details known to experts as points that a home owner, without previous building experience, can observe for himself during the construction of a house. They are the "clues" by which the amateur detective can find good construction.

For the sake of simplicity, these "key" points or "clues" can be grouped into four

parts of the house: the foundation, the floor framework, including bearing posts, girders and joists; the walls and partitions built of studding; and the roof. The remaining framing members are incidental to these parts.

The Foundation

Upon the strength and stability of the foundation depends the sturdiness of the future house. Concrete blocks, poured concrete, brick and stone are the masonry materials usually employed for foundations. Local building codes determine the required thickness; commonly 12" to 16". These walls rest upon "footings" of masonry—enlargements of the base of the wall to give a firm bearing on the soil beneath.

Good design demands that these footings, the first point to watch for, be flat bottomed, resting squarely on firm ground and at least 6" wider on each side than the walls above, with a minimum depth of 8". In poor bearing soil they should be still wider and deeper. Footings under posts should be 8" to 12" deep and 18" to 24" square. In damp soil a drain of at least 4" drain tile (6" preferred) should be laid around the outside of the footings and carried to a dry well, storm sewer or

other drainage point at a lower level well away from the foundations. (See Fig. 5.)

When this cannot be done, and where ground water may prove troublesome, the foundation walls should be waterproofed with at least a coat of hot pitch or asphalt or a half-inch layer of rich cement mortar on the outside.

Porch piers and their footings should be as carefully built as other foundations if they are to support the porch without sag.

Types of Framing

Three types of wood framing are in use: "braced" frame, "balloon" frame and "platform" frame. All are good when properly constructed, but the balloon frame is the one most commonly encountered and will serve as a guide to good construction. It is distinguished by the fact that the outside wall studs and corner posts are carried two stories high and the second floor joists are spiked to the sides of these studs where they rest on a "false girt" or "ribbon board" notched into them on the inside. (See Fig. 6.)

As in all types of construction it is easy to cheapen the job by skimping details that distinguish good workmanship from poor.



A



B

Fig. 1.—It does not take experience to distinguish good and poor workmanship and construction. Above: Shoddy work; note horizontal sheathing, lack of permanent corner bracing, weak construction over openings. Right: Every detail is correct.

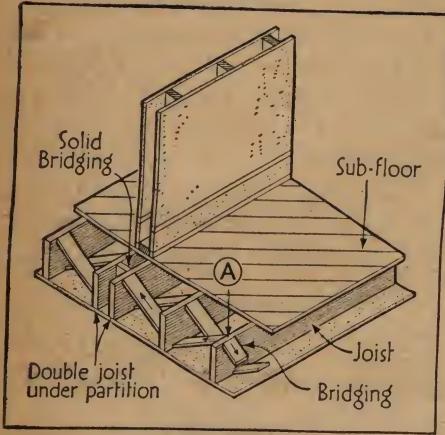


Fig. 2

The sill should be firmly seated on the foundation and secured to it. At left: Note bolts and close fit of wood to masonry. Below: Poor work; pieces of slate fill gap between sill and masonry.



B



Figs. 3

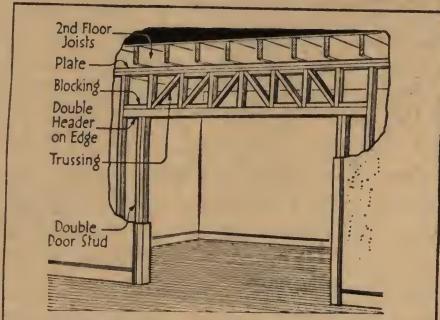


Fig. 4

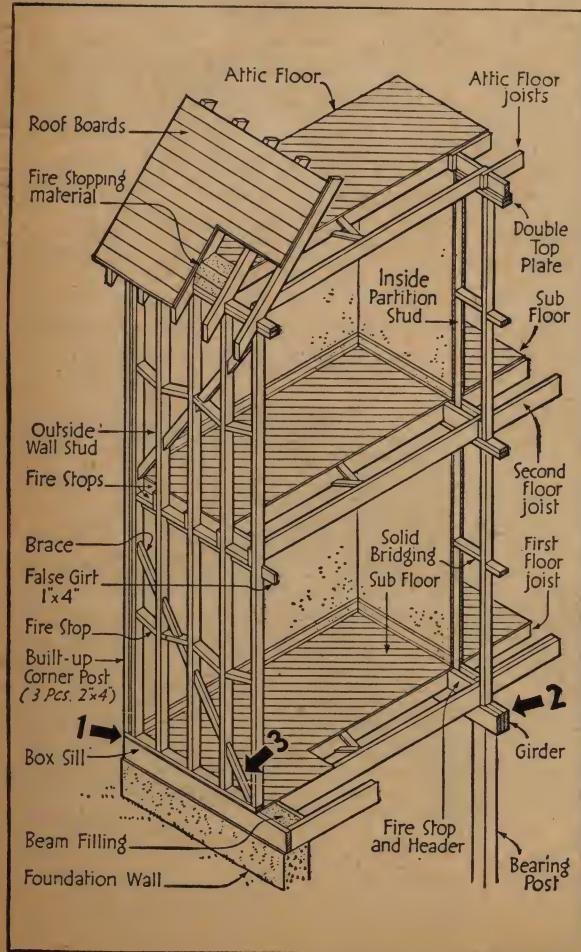


Fig. 5.—Section of Foundation Wall and Footing.

Fig. 6.—(Left) Correct "Balloon" framing. Important details to watch for are: (1) First floor joists are laid and floored before wall studs are erected. Level of top of girder (2) is same as foundation wall. Corners should be braced (3) with permanent diagonal members as shown.

Three clues to good balloon framing are marked by arrows in Fig. 6.

Supporting Timbers

The sill furnishes a method of securing the house to the foundation and provides a nailing surface for the first floor joists. It should not just set on the foundation but must be firmly anchored to it by means of bolts or concrete. See Fig. 2 for good and bad examples.

Joists support the floors. Their depth and spacing must be proper for the length of the space they span and for the load they are to carry; otherwise floors will sag and squeak and ceiling plaster will crack. And by all means they should be "bridged," as shown in Fig. 3, at least once in spans of 8 feet or more. Bridging triples the strength of the floor.

Floors

Every house should have two parts in each floor, the subfloor and the exposed or finished floor. The subfloor of rough boards should be laid diagonally over the joists as it gives a better foundation for the finished floor and, particularly on upper floors, adds stiffness to the structure.

Proper nailing is essential if creaking and squeaking of floors is to be prevented. Here is a clue: subfloor boards 4" or 6" wide should show two nails in each board at each joist; wider boards should have three nails. The finished floor should be laid at an angle to the subfloor and preferably at right angles to the joists.

Avoiding Shrinkage

When lumber dries it shrinks across the grain but only very slightly lengthwise with the grain. Modern methods of grading and drying lumber have reduced the shrinkage problem materially. Modern methods of designing house framing to equalize what little shrinkage may occur have made it possible to eliminate strains that cause plaster cracks due to unequal settlement or wind pressure.

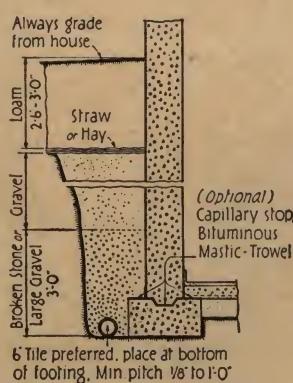


Fig. 5.—Section of Foundation Wall and Footing.

The principle followed is to have the same amount of lumber used across the grain in the side walls and in the "bearing" partitions and beams in the interior. That is why, in balloon framing, the top of the basement girder in Fig. 6 is kept at foundation level and the bearing partition studs are brought down to it. Any shrinkage in first floor joists upon which the outside wall studs are supported is equalized by similar shrinkage in the beam made up of members of the same depth. A study of this drawing will show other points where the same principle is followed.

Wall and Partition Framing

Good workmanship in wall and other internal framing can be identified in a number of ways. Upon the strength of the outside walls and the load-bearing partitions within (which carry the inner ends of the floor joists) depends the ability of the structure to carry the weight of the house and its contents and to resist wind pressure. Here are some more clues:

Non-bearing partitions, which serve only as screens between rooms, should be supported by double-bridged joists. Studs supporting framing around stairways should be doubled. All bearing partitions should have double top plates (horizontal members on which joists rest) and should be braced with solid bridging not less than 2" thick and full width of studs. All openings for doors and windows should be reinforced with extra members at the sides and special details at the head.

Wide openings in bearing partitions should be trussed as shown in Fig. 4. Windows should have double headers, usually set on edge for wide openings. Floor joists should have a full bearing on the partitions which support them as indicated in Fig. 7. Good workmanship is also revealed by the care with which members are cut and fitted together. See Figs. 1, 7, 10, 12 and 15 and contrast them with the corresponding details showing poor work.

Reducing Fire Hazard

Fire safety in houses does not depend upon covering the exterior with masonry; rather it depends upon preventing the rapid spread of fire through hollow walls and floors. Fire-stopping at the vital points within the frame of the structure confines to a limited area any fire that might start within the house.

Fire-stopping consists of 2" boards, mortar, brick and mortar, mineral wool or other incombustible material placed at strategic points within the frame to dam the flue-like hollow spaces between joists and studs so that fire and hot gases cannot be drawn through them. The circles in Fig. 14 give the clues to where to look for fire-stopping in the correctly built balloon frame house. To be effective, the fire-stopping must be well fitted and tight.

The Chimney

When the chimney is built do not allow the carpenters to fasten framing members to it as the best chimney built will settle somewhat and the wood may shrink at a different rate. Uneven settlement will cause plaster to crack and floors to sag.

The chimney should be self-supported and so constructed as to be independent of the house framing. (See Fig. 15.) Com-



In good workmanship every member is carefully cut and fitted, as in the roof above (Fig. 10). For contrast, note the poor work in the roof at right (Fig. 11).

Similarly, in a well built house structural members will not be weakened to make room for pipes. Compare Figs. 12 and 13 for good and bad work.

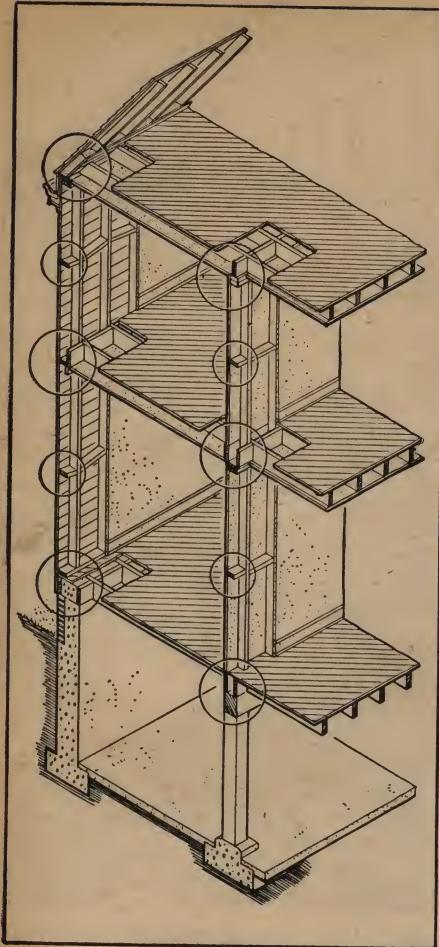


Fig. 14

The circles show the important places where "fire-stopping" should be found in balloon framing. Heavy pieces of wood, mortar or mineral wool should block each horizontal and vertical air space to prevent spread of fire through them.

bustible materials, including wood framing members, should be at least 2" from the chimney wall. These spaces should later be filled with mortar, mineral wool or other incombustible material.

The chimney should be built with a terra cotta lining in each flue enclosed in walls at least 4" thick if of brick and 8" thick if of stone. If the flue lining is omitted the masonry thickness should be doubled. Any increase in the wall thickness of a chimney should be made at least 12" below the rafters and not above the roof, except for capping at the top. Chimneys should extend 3 feet above a flat roof and at least 2 feet above the ridge of a sloping roof.

The Roof

The lack of sufficient pitch probably causes more "roof trouble" than any other factor. In climates where snowfall is excessive the pitch of the roof should not be less than one-third (or 8" rise in each foot of horizontal run).

Narrow roof sheathing boards spaced 2" apart make the ideal foundation for

wood shingles as they allow air to reach the under side of the shingles, keeping them dry and giving them longer life. (See Fig. 10.) The roof should be insulated with an approved insulating material to prevent formation of "oven-like" attics.

Wood shingles make an ideal roof covering. If they are not to be stained they should be thoroughly soaked in water before application. If they are to be stained, the dry shingles should be dipped two-thirds of their length in the stain and then dried. For best results use edge-grain shingles having a thickness at the butt such that the thick ends of five shingles will measure 2 inches.

Plaster and Interior Finish

Plaster is not elastic and if there is any decided movement in the framing that supports it, it will crack. The first requisite for a good plaster job is a rigid frame. However, poor plaster may be found in otherwise sound houses due to inferior quality or careless workmanship.

Interior trim (including the lumber used for base boards, picture and cornice mouldings, door and window casings, finished flooring, etc.) is seasoned and kiln-dried before leaving the mill and should be protected from moisture until it is in place. It should not be allowed to stand out in the open after being delivered to the site, nor should it be brought into the house until after the plaster has dried.

Carelessness in protecting finishing material is an indication of trouble for the future home owner. Trim installed when damp will swell, warp and then develop unsightly cracks when it dries.

Doors should receive two coats of paint on the top and bottom edges as they are hung. The paint prevents, to a large extent, the absorption of moisture that would cause the door to swell and bind with every rainy spell. Window trim, particularly sills and stools, should be tightly fitted and painted to keep out rain and wind.

House Siding

Correct selection of the type and grade of siding for the outside wall covering is exceedingly important for it is on the outside of a house, subjected alike to sun, wind, rain and snow that lumber receives the most severe usage. The wood should be of a decay-resisting species that will hold tight at the joints and that will hold paint. It should be thoroughly air-dry.

All joints around window frames and corner boards, or at mitered corners, and all splice joints should be carefully fitted. Siding and all exposed woodwork should be given a priming coat of good paint as soon as it is in place and dry.

ILLUSTRATIONS

The photographs showing good construction were all taken during the building of Connecticut House, an exhibit house erected in New Canaan, Conn., by Alexander Houses, Inc., to demonstrate its design and building methods.

The contrasting photographs, showing faulty construction, were taken in a number of other houses built in the New York Metropolitan area at the same time.

Only by careful and systematic elimination of common defects in current practice can substantial improvements in house construction be made. These camera studies of poor building methods were actually used in analyzing such defects and in developing the improved structural and mechanical design represented by Connecticut House.



15

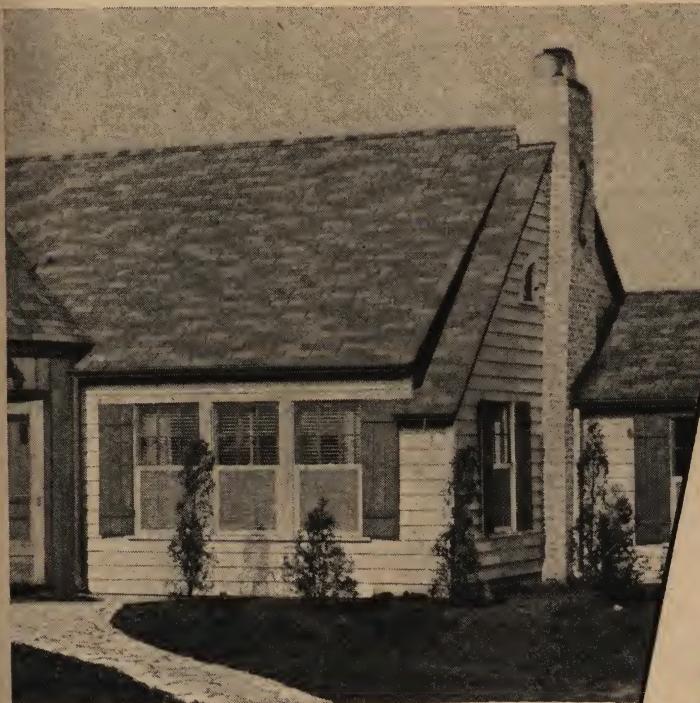


16

Chimneys should not support or be in contact with framing members. At Top: Correct; doubled joists keep clear of masonry. Below: Dangerous construction; second floor joists built into chimney. Plaster cracks will result.

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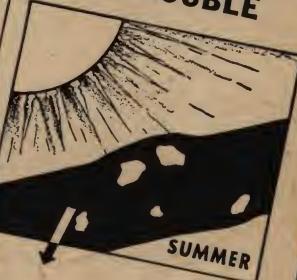
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Tiny bubbles of air and moisture—trapped inside of shingles and siding during manufacture—are the real cause of many roof and siding failures. These tiny bubbles expand and contract with every temperature change—gradually weaken the body of the shingle—eventually cause trouble. Now Celotex offers you shingles and siding that not only include the latest scientific improvements in materials, but are sealed at least three times against air and moisture . . . TRIPLE SEALED!

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Insulation Costs Nothing—

IT PAYS FOR ITSELF

INSULATION, in all its various forms, is the one element in a building that actually costs nothing! It is more expensive to live in a house that has no insulation than to own an otherwise identical house that is properly insulated. And if you already own one built before insulation was understood, you can have a complete installation made without spending a penny of your own! Can any subject be more important to the home owner than one that promises so much?

People often think of house insulation rather narrowly, as meaning the addition of something in the attic or roof to reduce the escape of warmth in winter and to keep out heat in summer. Actually insulation means much more, for it includes storm sash or double glass of some sort in all doors and windows, weatherstripping of these openings to lessen air leakage, awnings for cooler windows in summer and the use of building insulation in all exposed parts of the house, including walls,

floors over unheated spaces and an unheated attic or the roof.

Professor G. L. Larson of the University of Wisconsin made a careful study of the dollar value of winter insulation methods and proved beyond question that all of them pay for themselves. In new house construction, where the heating plant could be selected after the insulation methods were decided upon, he found that enough money could be saved, by using a small boiler, radiators and piping, to more than pay for the work that made a smaller heating plant possible.

His figures also show that fuel savings alone (as in the case of a house that already has a heating plant large enough for uninsulated construction) will pay back the cost of insulation in from $1\frac{1}{2}$ to 10 years, showing a return of anywhere from $9\frac{1}{2}$ to 73 per cent on the investment. No bank ever paid such generous dividends to its depositors!

Professor Larson's exact figures would

not apply to houses in other sections where both climate and costs vary, but all authorities agree that winter windows, weatherstripping and building insulation all return their cost very quickly. A study of four hundred houses shows where heat losses occur in winter. Of the total generated, 15 per cent goes through roof or ceiling, 30 per cent through side walls, 26 per cent more through the glass in windows and doors, 21 per cent through the cracks around these openings, and about 8 per cent through cold floors. Thus all forms of protection are valuable and each pays generous dividends.

And these returns are in cash! They do not show the greater summer comfort insulation will provide. They do not reflect the actual cash savings which both insulation and awnings will bring to owners who operate summer cooling equipment. They utterly neglect the better health that follows comfort and freedom from drafts and chills.

Under the provisions of the National Housing Act all these advantages can be had for existing houses without any actual expense to the owner. A modernization loan under Title I, as described elsewhere in this book, requires no down payment, and can be paid off in five years or less out of the fuel savings resulting from installing storm windows and insulation.

Any architect or qualified air conditioning or insulation contractor can figure out the actual cost and direct savings of each



Libbey-Owens-Ford Glass Co.

The house to which the calculations in the table are applied is illustrated above. It is 2 stories high with unfinished attic space and contains 8 rooms and bath above the basement. It is of frame construction with concrete foundation. Windows were assumed to permit air leakage equivalent to 2 air changes per hour. Storm sash was assumed to reduce this one-half. The heating season was 260 days. Oil at 7.2 c., 140,000 B.t.u., operated at 65% efficiency. These results show savings under relatively severe climatic conditions and, while a good indication of the efficiency of insulation, are in no sense typical or average. Savings from insulation vary with every house.

Stretch Your Building Dollars



Alexander Houses, Inc.

How Insulation is protected from condensation in walls. During plastering a huge amount of water must be evaporated and NOT absorbed by the insulation. When the house is in use the inside walls must be as tight as, or tighter than, the outside walls, to prevent warm air from getting into the space between and causing condensation in the insulation.

form of insulation you might use in your house. Then, if you do not want to borrow or cannot make this profitable investment all at once, you can determine what steps to take first.

Winter windows, or double glass of any practical form, stop about 50% of the heat loss through glass in winter. They cost surprisingly little, but it is well to specify a good quality clear glass so that vision will not be impaired. Double glazing (two barriers of glass) also reduces fogging and condensation on windows so effectively that they are practically indispensable in any house that is to have winter air conditioning and healthful humidification.

Weatherstripping, if of good quality, will stop 75 to 90% of the air leakage around windows and doors. Low grade materials are hardly worth bothering with, for the slight difference in cost between the best and the cheapest may mean a very wide difference in efficiency.

There are four basically different kinds of insulation from which to choose: rigid fiber boards, flexible blankets, "fill" insulations of mineral wool fibers or porous mineral granules, and reflective metal insulations. All four types are effective, durable and eminently satisfactory when properly used and correctly installed. All of them produce the desired result of checking heat movement, summer and winter, though they may work by different methods. Each type has its own advantages and limitations; no one type is superior to all others under all circumstances.

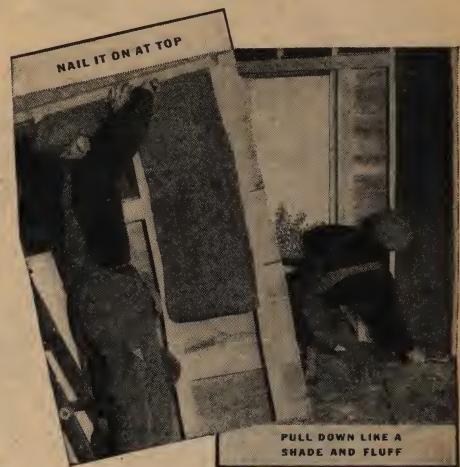
Choice should be based upon the condition to be met, considering the amount of insulating effectiveness needed, ease of installation and cost installed. The first step is to have some competent person figure out how much insulating effect is needed, for neither too much nor too little pays best dividends. The second is to obtain estimates of cost for the different types that will fit the job, each in the thickness or number of layers (as in the case of reflective foils) required to give the desired protection. The third is to buy products of a reputable manufacturer and make certain that the installation is made in accordance with the manufacturer's recommendations.

There has been much misinformation in circulation about moisture in insulated walls and roofs. All forms of insulation may contribute to the formation of frost or dampness in the insulated spaces if water vapor is allowed to reach them from the inside, or is not given a free escape to the colder outside air. Recent scientific research has laid this dampness bug-a-bo to rest forever, for it has been established that either of two methods will prevent hidden condensation in new, or cure it in existing buildings.

One method is to use a "vapor-barrier" between the insulation and the warm interior where all the moisture originates. This barrier may be part of the insulation itself or may be a covering of a paper or other material through which vapor will not pass.

The other is to allow the walls or roof to "breathe" to the cold outside air so that any moisture or vapor coming from the warm inside air can continue its natural outward movement without hindrance. The story of insulation is not quite complete unless summer conditions are considered. About one-quarter of the heat that enters a house in summer comes in through windows exposed to direct sunlight. Practically all of this heat "gain" can be stopped by awnings or outside shade. The remaining three-quarters of the outside heat comes in through the roof and the side walls. The same building insulation that checks heat loss in winter will work equally well in summer to keep out unwanted warmth. While the advantages of protection in summer cannot be measured in dollars unless air-conditioning equipment is being operated for actual cooling, they are reflected in lower temperatures and greater livability indoors, day and night.

If comfort, health, and money in your pocket are things you desire, you can have them all simply by making use of this modern knowledge of insulation.



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In selecting insulation, the efficiency of the material is important . . . but no more so than the cost of purchasing and installing it. On all these points Kimsul* gives you more for your building dollar. Because the new development of expandability...added to its high efficiency . . . provides additional economies in good insulation.

Kimsul is made in blankets 20 inches long and the right width to fit between studs. Installed, each 20 inch blanket is pulled down like a shade, snugly fitting the opening and forming a continuous, even thickness of protective blanket from top to bottom without cutting or fitting.

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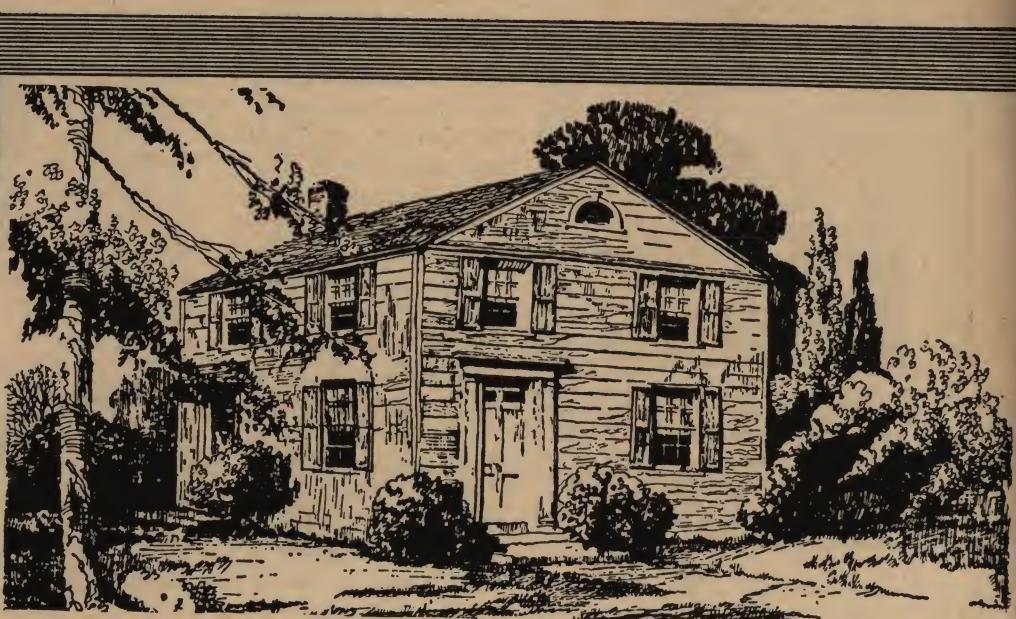
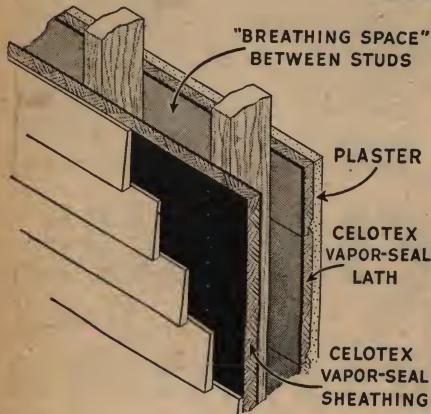
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2. The simplest, surest way to prevent this condensation is by means of a properly located "vapor seal."

3. To be effective, this seal must be located on or near the warm side of the insulation itself or near the warm side of the wall.

Celotex Vapor-seal Sheathing builds weather-tight insulated outer walls with a properly located vapor seal. The "breathing space" within the wall is retained. The special asphalt-and-aluminum-coated surface on the new Celotex Vapor-seal Lath seals vapor inside the room and out of the wall. Use the extra thick Celotex Vapor-seal Lath for top-floor ceilings.

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This is FHA's 6-room, low cost "HOUSE E," built at Bethesda, Md. At little or no added cost, you could add insulation to this type house by using Celotex Vapor-seal Insulating Sheathing in place of ordinary sheathing. For less than \$60 extra you could have complete insulation—Celotex Vapor-seal Lath on the inside and Celotex Vapor-seal Sheathing on the outside!

Actually, you would be adding \$175 to \$200 worth of insulation to FHA "House E"—yet it would cost you less than \$60 extra, because Celotex replaces building materials you would otherwise have to buy.

You would have all the advantages of Celotex insulation, *guaranteed in writing for the life of the building*—fine, strong, plastered interior walls—permanently weather-tight outer walls—summer comfort—and winter fuel savings which alone would soon pay the small extra cost. And this permanent insulation is permanently guarded against termites and dry rot by the exclusive, patented Ferox Process!

See your architect, contractor, and Celotex lumber dealer for accurate money-saving facts on building with Celotex.

CELOTEX
REG. U. S. PAT. OFF.
GUARANTEED INSULATION

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A DOZEN years ago, the pioneer developer of cane fiber insulating building materials, issued a warning to home builders to which forward thinking home owners have given increasing attention in the years intervening.



B. G. Dahlberg

"Look Ahead!", said this executive in his company's advertising as early as 1926. "Look ahead! Heat-leaking houses are going out of date. Nobody will want to live in such a house. Nobody will buy or rent such a house. Nobody will think of building such a house."

The years are steadily proving this forewarning to have been sound, and made with rare foresight.

Insulation of homes is far from new. The first forerunners date to that far-away time when man first learned to interpose between himself and the elements the protection of walls and a roof. The thatch roof, the origin of which antedates recorded history, is a form of insulation known to this day to the most primitive savage races of the earth. The mud-filled wall of an Icelander cabin marks another crude attempt to ease the rigors of nature.

LOOK AHEAD!

Wittingly or otherwise, those dim ancestors incorporated in their attempts at insulation a basic principle of physics. Their primitive adaptations possess such merit as they have because to greater or less extent they provide the insulating property that is a characteristic of imprisoned, still air. The possession of this characteristic, while varying in degree, is the common denominator of almost every insulating material sold today.

It was Bror G. Dahlberg, pioneer developer of cane fiber insulation and President of The Celotex Corporation, who envisioned a fibrous material which could be processed into a product not only having superior qualities of heat insulation but also of sufficient rigidity to add strength to building construction. Further, he envisioned a material that could be made obnoxious to rodents, vermin and fungus growths. Years of experimentation were rewarded by the discovery that the fibrous material that remains when the juice has been squeezed from sugar cane, namely bagasse, could be manufactured into an insulating material that would satisfy all phases of the problem.

On March 21, 1921, there was produced at the Marrero plant of The Celotex Corporation, just across the Mississippi River from New Orleans, the largest board the world has ever known. Big enough to over-top the Woolworth Building if stood beside it, this "board" was 12 feet wide and 800 feet long. More important in the eyes of Mr. Dahlberg and his associates and the eyes of the builders of thousands of truly modern homes, the "board" could be sawed, nailed or otherwise worked just

like wood while offering, thickness for thickness, three times the insulating value of that older building material.

Insulation is all but universally specified by architects today. The great preponderance of new homes, probably eight out of ten at the least, contain it. Economy as well as comfort factors are responsible. Depreciation is less on an insulated house than on an uninsulated one. This is another way of saying that the re-sale value of the former will be higher than that of the latter, all else being equal. Insulation means smaller fuel bills, better ventilation with or without air-conditioning and greater all 'round livability of the home in the heat of summer as well as the cold of winter.

The addition of rigid cane fiber insulation to the average six-room house has been calculated to add about fifty dollars to the over-all cost of construction of such a building.* Disregarding what this will mean in terms of enhanced resale value of the building, tests show that the construction cost premium will have been recovered within less than three years—two and a half years, to be exact, if average figures showing a fuel savings expectancy of \$20 a year, are taken.

This explains, briefly, why Bror G. Dahlberg spent large sums of money to tell the American people from coast to coast that—"Heat leaking houses are going out of date"—Why most homes being built today are insulated and why more homes are insulated with Celotex than with any other building insulation. No one wants a house that is expensive to heat.

* After allowing for the value of structural materials it displaces.



Celotex Vapor-seal Sheathing comes in big, rigid, light-weight boards that go up fast—fit tight—stay put! Celotex keeps wind and weather out, makes the building easy to heat, and saves fuel. And it's permanently protected against termites and dry rot by the exclusive, patented Ferox Process.

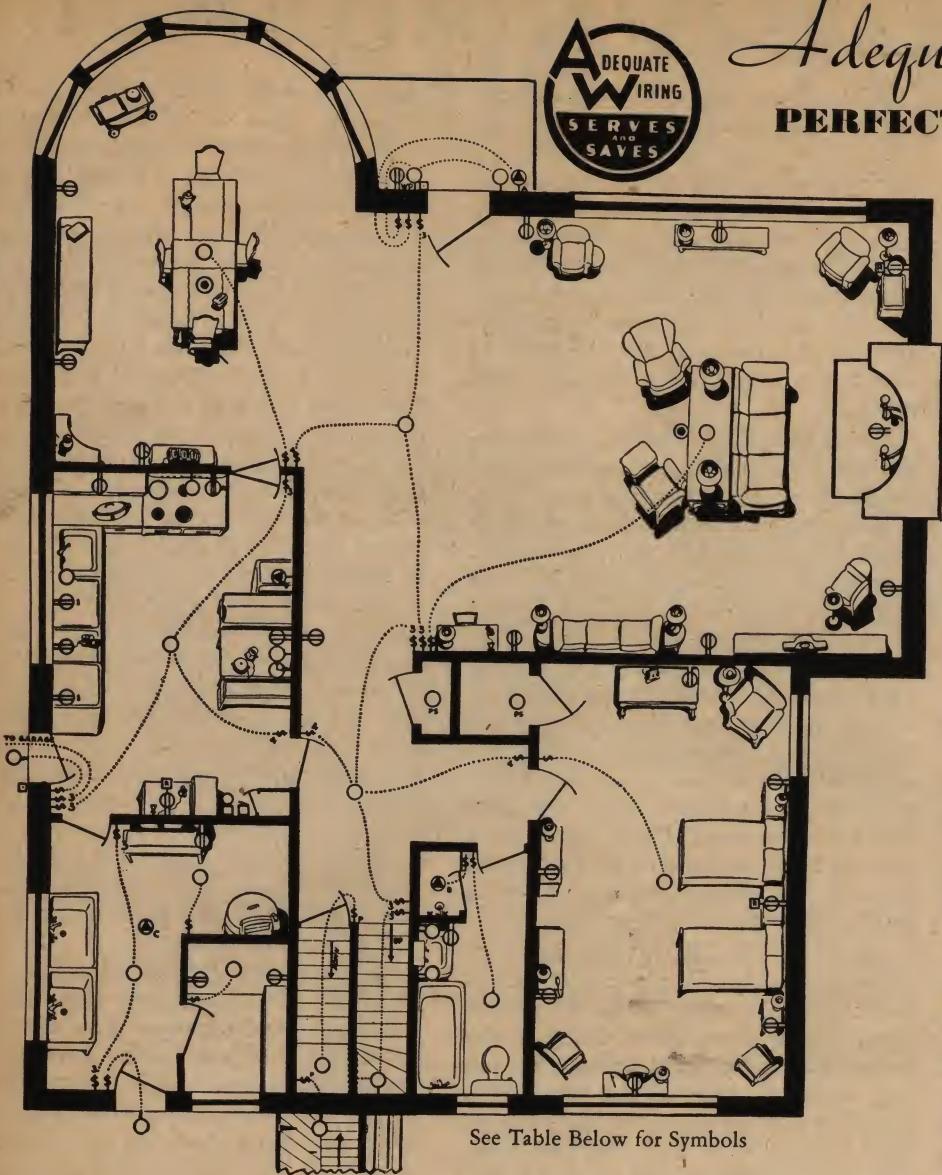


Celotex Vapor-seal Lath, with patented beveled edges and shiplapped joints, provides a strong, solid plaster base, gives plaster greater resistance to cracks, prevents lath marks. And this new kind of lath provides the vapor barrier demanded by modern science, right where it belongs! It's dry rot and termite proofed.



Celotex Vapor-seal Lath guards comfort summer and winter, saves fuel, and permits beautiful plastering jobs that give lasting satisfaction. And these benefits are permanent—for Celotex is proofed against termites and dry rot by the exclusive, patented Ferox Process—and backed by a written life-of-building guarantee!*

*This guarantee, when issued, applies only within Continental United States



See Table Below for Symbols

USE THIS TABLE AS YOUR CHECK LIST

SYMBOLS	ROOMS															
	LIVING ROOM	DINING ROOM	KITCHEN	DINETTE	HALL	STAIRWAY	BEDROOM	BEDROOM	BEDROOM	CLOSETS	BATHROOM	ENTRANCES	PORCH	ATTIC	CELLAR	LAUNDRY
○	CEILING OUTLET															
-○	WALL OUTLET															
—○	CONVENIENCE OUTLET															
◎	FLOOR OUTLET															
—○	RANGE OUTLET															
Ⓐ	SPECIAL PURPOSE OUTLET															
\$	LIGHTING SWITCH															
\$ ₂	MULTIPLE CONTROL SWITCH															
\$ _p	SWITCH & PILOT															
-○	CLOCK OUTLET															
-R	RADIO OUTLET															

Adequate Wiring PERFECTS YOUR HOME PLAN

YOU want your lamps to give light of even brilliance, uninterrupted by dimming or flickering when you switch on your electrical appliances. That means that you will want an adequate number of branch circuits to supply electricity to lights and appliances separately. And you will need to be sure that you are installing large enough wire for the specific uses of those circuits. Minimum adequacy demands a circuit for every 500 sq. ft. of finished floor area in the house, plus one or two circuits of larger wire run to the outlets in kitchen, laundry space, dinette and dining rooms where appliances will ordinarily be attached. Electric ranges, water heaters, automatic stokers and automatic control of oil burners require their own circuits of still larger wire.

For adequate service, you must be sure to install at least the minimum number of lighting fixtures, duplex convenience outlets and switches. They should total:

All Rooms: *Wall switches:* Lighting should be controlled by wall switches near latch side of main doorway. If a room has commonly-used doorways more than 10 ft. apart, wall switches should provide multiple control from both doorways.

Kitchen: *Lights:* 1 ceiling-unit and wall units over each work area: sink, work table, serving counter, range, etc. *Duplex convenience outlets:* At least 3 at elbow height at work centers. Special outlets for clock, refrigerator, ventilator fan, water heater, range, dish-washer, sink.

Laundry Space: *Lights:* ceiling-unit and supplementary units over work-centers. *Duplex convenience outlets:* 1 at each work area and a single outlet near tubs for washing machine.

Dining Room: *Lights:* 1 ceiling-unit; wall brackets if desired. *Duplex convenience outlets:* 1 in every wall space where buffet or serving table may stand. A floor outlet under table may replace 1 of these.

Dinette: *Lights:* 1 ceiling-unit or 1 wall bracket. *Duplex convenience outlets:* At least 1 above point where table may touch wall.

Living Room and Bedroom: *Lights:* 1 ceiling-unit and wall brackets if desired. *Duplex convenience outlets:* No point along floor line in any wall space unbroken by a doorway should be more than 6 ft. from an outlet. And 1 in each usable wall space 3 ft. or more in length at floor line. Also 1 outlet flush in top of mantel.

Halls: *Lights:* At least 1 ceiling-unit or wall bracket for each 15 ft. or less of hall. *Duplex convenience outlets:* 1 for each 20 ft. or less of hall.

Stairways: *Lights:* 1 at head and 1 at foot of each stairway. A multiple switch to control both lights at each of these points. Pilot light on wall switch at head of basement and at foot of attic stair to check those lights.

Bathroom: *Lights:* 1 ceiling-unit and 2 wall brackets either side of mirror. (If room is less than 60 sq. ft. in area, ceiling-unit is unnecessary.) Enclosed shower compartment requires special lighting. *Duplex convenience outlets:* At least 1 not near tub.

Closets: (with floor area of 10 sq. ft. or more): *Lights:* 1 rigid fixture with pull cord control, wall switch or automatic door switch.

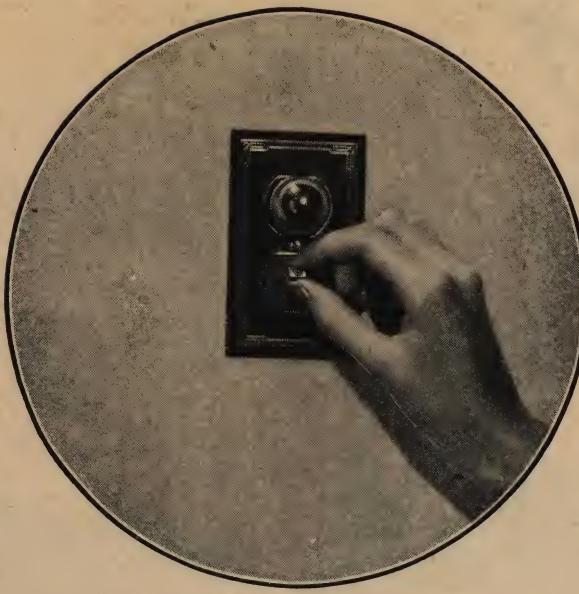
Attic and Basement: *Lights:* 1 ceiling-unit near stairs, with additional units in each enclosed space. *Duplex convenience outlets:* At least 1.

Entrances: *Lights:* 1 unit over the door or 1 on either side. (Porches need 1 ceiling unit for each 100 sq. ft.) *Duplex convenience outlets:* 1 weatherproof. (Porches and terraces need 1 weatherproof outlet along each 15 ft. of wall or fraction.) *Wall switches:* At least 1 inside each entrance door.

Right Equipment

MAKES LIVING COMFORTABLE AND EASY





MODERN EQUIPMENT INCREASES THE JOY OF LIVING

Home seekers dream no longer of castles in Spain. Today's practical Home Makers picture a scientifically-designed structure fitted throughout with mechanical labor-saving devices built to give a lifetime's service. The finest of heating plants, bathrooms, kitchen ranges, clothes and dishwashers, water heaters and refrigerators are integral parts of America's homes.

In choosing your equipment from the many first-rate pieces of apparatus now on the market, balance initial cost against operating expense, comfort and convenience. Appreciable savings in the cost of operating and maintaining essential services will be found in good piping, good bathroom fixtures, good wiring, a good kitchen and a good heating plant.

For essential in good equipment are cost and goodness, or quality. While attractive appearance can usually be had without additional first cost, the wise purchase is the one with the highest degree of essential goodness.

Know Your Heat BY

J. A. Battle



Executive Secretary, National Coal Association

IN the purchase or the building of a home there are a variety of considerations which the prospective home owner must decide according to his needs, his tastes and his pocketbook.

The heating equipment is a matter of the highest consequence to which the prospective home builder or home buyer often pays too little attention.

He does not buy his heat when he acquires his home. He merely acquires the heating equipment. The home owner supplies his own heat year after year. His fuel is a continuing cost like interest and taxes and insurance.

A warm house in cold weather is an indispensable requisite to the health and comfort of the occupants. No amount of pleasing color schemes, labor saving gadgets and fine furniture will compensate for the discomforts of faulty or insufficient or undependable heat.

The annual cost of home heating ought to be carefully budgeted with an eye to the comparative operating costs of various types of house heating equipment and the choice of fuels.

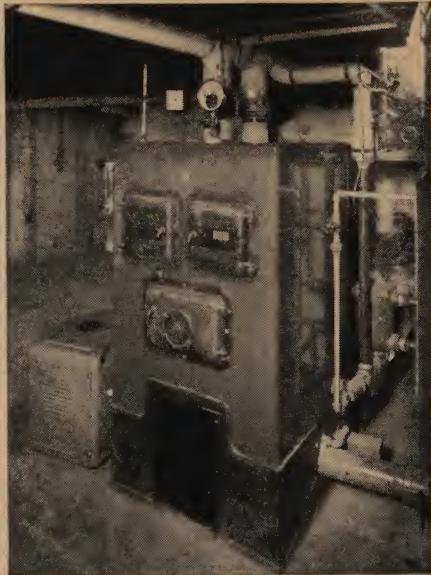
Wood was the fuel supply of our forefathers. Wood fueled the first steam engine and Robert Fulton's steamboat and heated the homes of earlier generations. Today a wood-burning fireplace is a charming feature of countless homes, but in northern climates few home owners would want to rely solely on wood for their heat.

Bituminous coal, first mined in America more than a century ago, and now available in virtually inexhaustible abundance, has long been the nation's principal fuel medium, supplemented in recent days by oil and gas and electric power.

Today the prospective home owner may take his choice when it comes to the question of heat. He may burn wood or coal or oil or gas, or, if money is no object and it suits his fancy, he may "burn" electricity for his heat.

In making his choice the home owner will do well to fully acquaint himself with the facts and the comparative advantages and comparative costs of the various fuels, for his particular home in his particular location and with relation to his needs.

Each fuel has its own "talking points," but the important thing for the home owner is to get the facts.



There is no coal shoveling in this coal heated basement. The Stoker does all the Work. Ash Removal is just as simple as Stoking.

Because bituminous coal is not a new fuel some persons have the idea that it is not a modern fuel. That is a mistake. Coal has been "modernized" along with almost everything else. That means that coal today is scientifically mined, treated, graded, shipped and delivered (frequently packaged) in keeping with modern requirements.

The first and foremost consideration in connection with the bituminous coal industry is the human element. Some 500,000 miners are employed during normal times. There are at least that many more men employed indirectly, such as retail coal merchants, their employees, railroad employees directly dependent on the movement of coal, etc. Many are employed indirectly in manufacturing plants which supply the coal mines, as well as professional persons such as doctors, teachers, merchants, and so on. Thus the bituminous coal industry occupies an important place in the economic picture of this country. Its purchasing power when the mines are operating is enormous. Labor is the main factor. Sixty cents out of every dollar taken in for the sale of coal goes directly to mine labor.

Because bituminous coal plays so large a part in industry, some persons have the idea that coal is only an industrial fuel. That is a mistake. Coal for a heating plant in the home is in first place.

There is a lot of emphasis on labor sav-

ing in the home, avoidance of drudgery—we talk of automatic this and that. To think of coal in terms of frequent journeys to the basement is unnecessary. The fact is that coal-firing, even "by hand," in the modern coal furnace is a very different proposition today from a generation ago. If the home owner wishes, he may obtain "automatic" coal-firing at no more cost, and often at less cost, than for automatic heat of any other type of fuel and his automatic coal-firing appliances—the household type coal stoker—will be as dependable as any other.

The small home without basement can now have an abundance of heat by the use of the fireplace heater, to which radiators are connected, simple in design, easy to install, inexpensive and efficient. No more trouble than the building of the fire in the open grate.

When it comes to the cost of his fuel supply the home owner will do well to remember that it is not the unit cost that counts, not the per ton or per gallon or per cubic foot price, but the cost of his total "mileage" per year.

The architect who designs the house, the contractor who builds it, each has expert ideas and does his part to make it the best of its type. *But* they are not going to live in it: they are not going to pay for it, and they can't know the financial limit of the average person to pay for his house and its maintenance.

The increased "efficiency" of coal has been tremendous during the past two decades. This means to the owner of a modern home with modern heating equipment that two tons of coal today will supply him with the same amount of heat as three tons did a decade ago.

In further consideration of the house heating question, the prospective home owner will be confronted with a choice as between various types of fuels. If he concludes to fuel his burner with bituminous coal, he will discover, if he does not already know, that for the best heating results he must have the most efficient and economical combustion of his fuel, and that means the kind of heating equipment best adapted to the particular fuel to be burned in it.

The final questions in his mind should be—What do I want? What can I afford? What shall I install to save money? Reliable cost figures are available.



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Year Round Comfort

WHEN you can answer this question: "What quality of comfort do I want in my new house?" you can greatly simplify your problem of selecting a satisfactory heating or air conditioning system. For there are so many types and grades of systems from which to choose that the easiest way to select one is to work backwards from the results you want to secure, to the particular kind of system that will produce these results most economically.

To keep things clear, let us recall that *heating* and *air conditioning* are the same thing, up to a point, and that air conditioning goes beyond heating to add other elements which contribute to comfort and health. *Heating* merely provides warmth in winter; winter *air conditioning* adds moisture to the air to keep our persons and possessions from drying out, it keeps the air in gentle circulation to prevent stagnation and it cleans the air periodically.

What people often think of as air conditioning—summer cooling—is merely a further development of winter air conditioning. Summer air conditioning keeps indoor air in motion and keeps it clean, just as in winter, so when you have winter air conditioning you have part of the things needed for summer comfort. But instead of adding moisture to the air, summer treatment in most parts of the country seeks to remove excessive moisture, for this has a cooling effect on the body and produces comfort. Cooling the air is the *last* step in complete air conditioning. It is often too costly for the moderate house.

With these distinctions clear it is possible to begin organizing your desires. There are five "Ifs" to answer:

(1) *If you want any form of air conditioning* for more than one or two rooms the system you choose must include sheet metal ducts through which air can be moved from the plant in the basement or utility room, to outlet grilles in the walls of each room where conditioned air is wanted, with other ducts to return the air from the floor of the principal rooms back to the central unit.

This usually means a system that is a modern development of the familiar warm air furnace that today uses smaller ducts

and an electric blower to keep the air in motion. Such an installation is called a "Direct Fired," or warm air furnace system. The same results may also be obtained with an "Indirect" system which uses a steam or hot water boiler to heat all the air passing around coils in the basement ductwork.



National Plumbing and Heating Industries Bureau.

Placed under a window a radiator meets the cold where the cold comes in, thus providing draftless heating and sun-like radiant heat, as well as being entirely out of the way.

(2) *If you want the benefits of radiant heat* you must choose a system that employs radiators. Radiant heat is like the warmth of the sun or the glow from a fireplace or hot stove. You feel it on your body on the side that is turned toward the heat. It is particularly desirable when radiators can be placed under windows along cold walls, for then they offset the tendency of these cold surfaces to rob heat from the body. Of course radiators effectively heat the whole room, too, but the chief difference between this type of system and warm air heating lies in the direct warming effect of radiant heat.

(3) *If you want both radiant heat and warm conditioned air* in winter the system you should choose is known as a "Split" system, which divides the heating job between radiators and warm, treated air. In this system you use radiators in the bathrooms, the kitchen and garage (if the latter must be heated) because it is not desirable to recirculate air from these rooms back to the central plant. In addition you may use some radiators in living rooms or especially cold rooms for their radiant heating value. Then you provide ducts to all the rooms in which conditioned air is wanted, winter or summer or both, and warm and clean the air in a cabinet con-

nected to the water or steam boiler in the basement or utility room.

(4) If you want to get your domestic hot water supply from the same source as your house heat, you will need a system that uses a steam or hot water boiler, rather than a warm air furnace. Of course, with the latter you can always have a separate pot stove, or an independent water heater using gas, oil or electricity.

(5) If you want really steady temperatures, and particularly if you want to keep the air properly humidified in winter, your system should be automatically controlled by a sensitive thermostat and a humidistat. Automatic controls may be used—in fact are highly desirable—with even a hand fired boiler or furnace, for they also save fuel and thus really pay for themselves.

Of course, comfort is not the only factor to be considered by most families. Convenience and economy are usually wanted as well.

Automatic Controls

Convenience can be had in part by using automatic controls, already recommended for both comfort and economy, and in part by the kind of fuel you use. Bear in mind that the quality of comfort is not effected by your choice of fuel. You can be just as

warm burning old newspapers or kindling wood as you can be with coal, coke, oil, gas or electricity.

If you allow maximum convenience to govern, then one of the so-called fully automatic fuels should be used: electricity, gas or oil. These three are always employed under the control of automatic devices.

But if solid fuels—bituminous coal, anthracite or coke—are wanted for their economy, your choice lies between hand firing, an automatic stoker, or a boiler or furnace that holds a reserve supply of fuel (called a magazine feed unit) to lessen the frequency of shovelling fuel. With an automatic stoker no labor is involved except carrying out the ashes. With magazine type boilers or furnaces, fuel need be supplied only once in 24 to 56 hours, depending on weather conditions.

With all solid fuels, labor can be greatly reduced by proper design of the fuel bin, using a sloping bottom and dust-tight walls. Ash dust can be eliminated by an ash spray, to be used before removing them from the furnace. These advances add only \$25 to \$40 to the cost of old-fashioned methods and vastly improve the convenience and desirability of solid fuels.

As for summer comfort, you should

likewise decide on how far you want to go, now or later, toward complete year around air conditioning, including mechanical refrigeration for cooling.

Summer Comfort

You can get a great deal of summer comfort with an attic fan costing around \$150 to draw the cool night air through the house in preparation for the torrid day to follow. If you have a well supplying ample cold water you can have a cooling system for a few hundred dollars. Or, in humid climates, you might consider one of the newest air drying devices, called a "dehumidifier" which answers the old discomfort complaint "it isn't the heat, it's the humidity." They are still rather expensive, but cost less than mechanical refrigeration.

Thus, as a home owner, you have quite a sufficient task to decide what results you desire to get out of your heating and air conditioning equipment. The further problem of selecting the final units to buy is one that should be solved with the help of experts. When you know what you want, and what you can pay for it, your advisor can quickly limit your final choice to a few combinations of units that will best meet your needs.



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IT IS EASY TO HAVE AN

Efficient Kitchen

IN YOUR HOME

By Gardner Boyd



Modern Electric Kitchen in Small Home

THE modern home-maker knows that her kitchen must be equipped for three major tasks—the storage and preparation of food, the cooking and serving of that food, and the washing of dishes. The electric kitchen is planned with these three operations in mind.

To each of these tasks a "work center" is assigned. At each center the equipment is so arranged that the work can be carried on with utmost dispatch and ease. The location of these three planned centers in the kitchen, so that the work flows in an orderly and efficient manner, constitutes the modern planned kitchen.

Food Storage and Preparation

Since the function of the kitchen is to provide facilities for preparing meals, the first work center is the one at which the preparation of meals begins. It includes the electric refrigerator, storage space for supplies not requiring cold storage and for small equipment, and a convenient shelf or counter on which the housewife may prepare food as she takes it from storage.

With the refrigerator close to the outside door, it is simple to place eggs, meat, milk, fruit and other perishables directly in it as they are brought into the house, without waste motion. Here they keep

safely until needed, because the electric refrigerator holds its temperature constantly below 50 degrees (the safety limit for keeping foods), regardless of room temperature.

Cleaning and Dishwashing

The cleaning and dishwashing center should be next-to the preparation center. This places the sink in a convenient position when water is needed to prepare food for cooking. Joined to the sink is the electric dishwasher. Its convenience and efficiency make it a desirable installation in any home. With its help, dishes are washed far more thoroughly and easier. No soaking of hands in hot greasy suds; no frequent emptying of dishpans to refill with clean water. The automatic dishwasher uses water far hotter than the hands can stand, important to sanitation.

The remaining space in this second work center is occupied by a work counter, with storage cupboards and an electrically-heated towel dryer below counter and sink.

Cooling and Serving

The cooking and serving center is placed at the other side of the cleaning center. Its most important unit, the electric range, should stand close to the door leading into the dining room, so that food can be car-

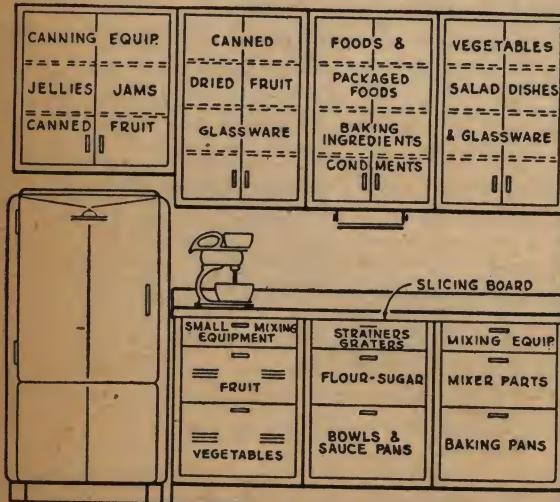
ried from range to table with the greatest convenience. Electric cooking has become justifiably popular because it gives the home-maker fast, clean and economical cooking, with the least possible effort on her part. The automatic features of the modern electric range give the home-maker more freedom from the kitchen and more flexibility as to time spent in it.

Between range and sink is a work counter with storage cabinets beneath, while wall cabinets may extend the entire length of the center above.

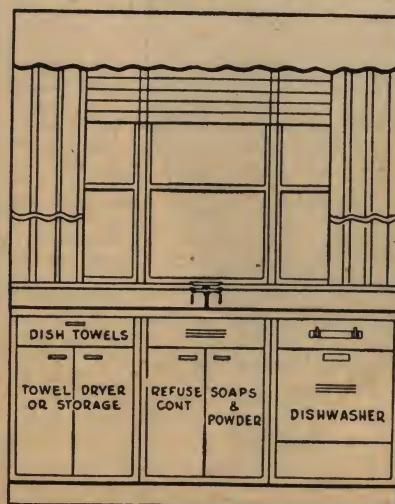
This completes the arrangement of the three work centers. This sequence may be either in the form of the letter U (the most desirable plan), or in the form of an L, or in a straight line. Modifications of this arrangement are sometimes unavoidable if doors and windows are badly placed.

Work Counters

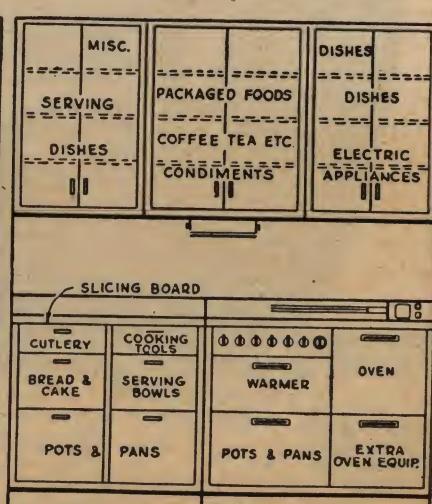
The work counters which fill the space between refrigerator and sink and between sink and range should stand at the same height as the top of the range and sink, to which they should be closely joined. Beneath them will be base cabinets, built to stand on the floor. Standard height for these cabinets is 36 inches thus allowing for a work counter 1½ inches thick and a 4



Food Storage-Preparation Center



Cleaning and Dishwashing Center



Cooking-Serving Center



Range (Cooking) Center

inch toe space at the floor line. The counter itself should be 25 inches from the front to back, and the cabinets from 22 to 24½ inches deep. Wall cabinets are 16 inches deep, and are set high enough so as not to interfere with the work space beneath—at least 16 inches above the counter.

Cabinet Space

A common way to figure the amount of cabinet space required is in relation to the number of bedrooms, since this indicates the normal occupancy of the house. A house of two bedrooms should have at least 30 square feet of upper cabinet space, with base cabinets beneath these upper cabinets where possible. Add six more

square feet of upper cabinets for each additional bedroom in the house. A tall storage cabinet close to the range, extending from floor to ceiling, offers special conveniences for storing utensils.

Popular acceptance of kitchen cabinets and electrical equipment has been such that the cost of the modern all-electric



Sink (Cleaning) Center

kitchen is today entirely in keeping with the most modest home.

Electric Water Heaters

Plenty of hot water is one of the basic requirements of modern living. One of the most satisfactory developments to meet this is the automatic electric water heater. No source of hot water is more reliable.

Its flameless heat makes possible the most complete insulation, and an outer steel casing insures beauty, durability and cleanliness. The electric water heater may be placed with perfect safety anywhere. It can be located in the basement or utility room, an advantage in the South and Southwest where the trend is toward basementless houses. Because it is compact it can be placed in the kitchen, where its appearance harmonizes with other equipment. The ideal location is near the Cleaning Center, so that there will be the shortest amount of piping and the least loss of heat.



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DISHWASHER-SINKS

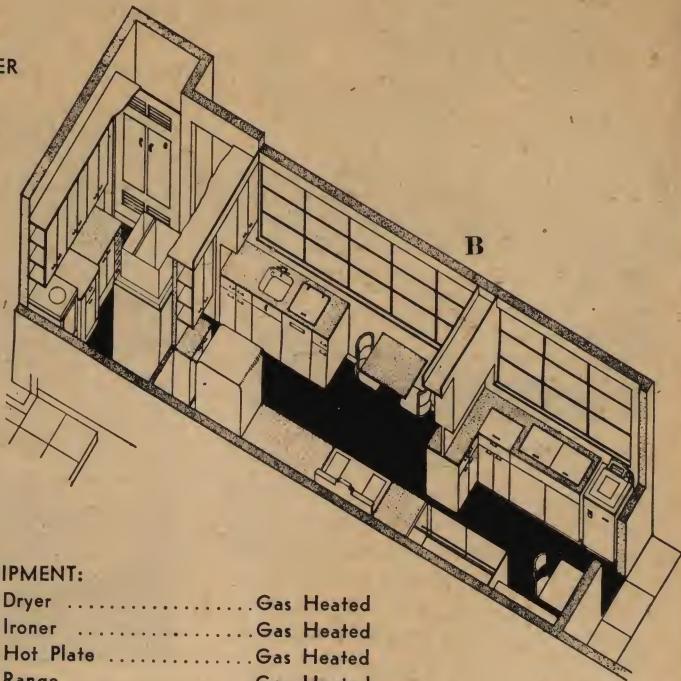
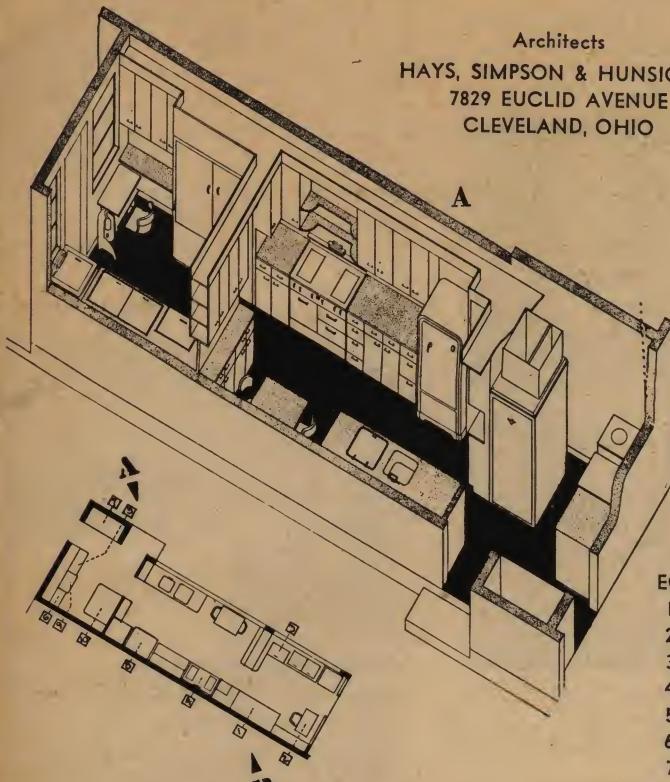
Contractor
or Builder

Please send him a "BOOK of PLANS"
Contractor's Name
Address
City

Typical Examples OF GAS FOR THE 4 BIG JOBS

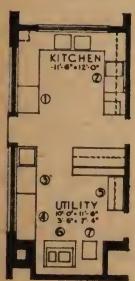
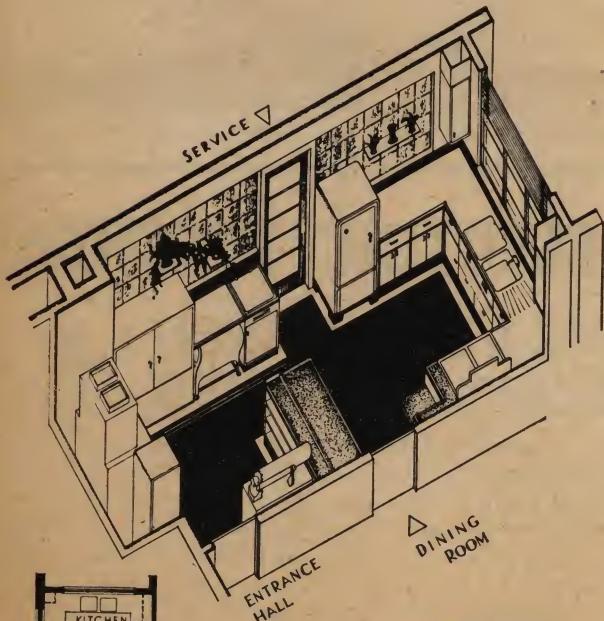
Architects

HAYS, SIMPSON & HUNSICKER
7829 EUCLID AVENUE
CLEVELAND, OHIO



EQUIPMENT:

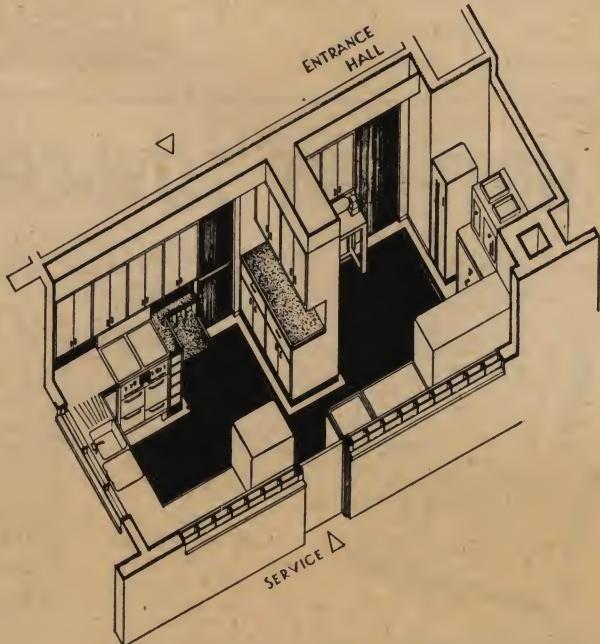
1. Dryer Gas Heated
2. Ironer Gas Heated
3. Hot Plate Gas Heated
4. Range Gas Heated
5. Plate Warmer Gas Heated
6. Incinerator Gas Fired
7. Cooling Unit Gas Fired
8. Refrigerator Gas Fired
9. Hot Water Heater Gas Fired
10. Air Conditioning Unit Gas Fired



PLAN OF
KITCHEN & UTILITY

EQUIPMENT:

1. Refrigerator
2. Range
3. Washer
4. Dryer
5. Ironer
6. Heating and Air Conditioning
7. Hot Water Heater



Architect

FRANK S. DOUGHERTY
1100 WOODLAWN AVENUE
WILMINGTON, DELAWARE

Gas FOR THE 4 BIG JOBS

By J. W. WEST, Jr., Director
Home Appliance Planning Bureau, American Gas Association



Seal of Approval of
the Testing Laboratories of the American Gas Association.

GAS has come into its own as the logical fuel for Cooking, Water Heating, Refrigeration, and House Heating. Engineering science has developed automatic appliances of every type and size so that ideal equipment is everywhere available to do these Big Jobs in every home.

Modern gas equipment is reasonably priced. It operates without noise; has no moving parts needing service and repairs; and, because it doesn't wear out, it gives almost lifetime service.

COOKING



Simple in design and simple to operate, the modern automatic gas range provides instantly any degree of heat wanted. It is heavily insulated to save fuel (and to keep your kitchen cool). Automatic features, controlled by a touch of your finger, include top-burner and oven lighting, and to regulated-oven heating to assure just the right cooking temperature. There are smokeless broilers and simmer-save top burners that give you speedy, adjustable and economical clean heat.

And for those who want the economy and convenience of complete automatic time-control for absentee-cooking, the finer ranges offer the greatest values for a long time investment. Such ranges pay for themselves in savings.

WATER HEATING

Full automatic water heaters provide perfect service to suit every house and family. Because of improvements in design and insulation they use surprisingly little gas.

From the many different types—standard to table top—you can select a heater that will give a measured amount of hot water at a measured cost, or one that will always supply all the hot water your family needs.

Your local gas company's experts can help you to pick out exactly the water heater that will suit your house, your family and your pocketbook.



REFRIGERATION

The gas refrigerator is noted for dependable performance, quiet operation and real economy, for maintenance and operating costs are indeed low.



The freezing unit provides controlled cooling throughout the food storage space. At a turn of a knob defrosting and refreezing are automatic. Moreover, the gas refrigerator has every modern device and improvement—interior lighting; push-or-pull door latch; ice-trays released by triggers; maximum storage space.

Don't buy too small a refrigerator to save on the purchase price. There isn't enough difference in operating costs to make up for the inconvenience of restricted storage space and too few ice cubes.

HOUSE HEATING

Gas is the ideal fuel for a heating plant designed to deliver automatically to every room in your house clean, odorless heat, to start quickly in the morning and to make quick temperature changes to meet variable weather. For gas provides clean quick

heat. It needs no storage space, no handling, no service—and there is always enough. As you pay for it after use—not before—it is in every way the best heating buy for your money.

Because of economies from new types of burners operating under thermostatic control and specially low meter rates for heating in most localities, gas fuel bills are comparable to any kind of fuel.

Size for size the equipment rates less space than any other. This is of real importance to the owner of the small house.

There are 14 types and many sizes of gas heating equipment (including burners to convert your present furnace), so it is easy to find the ideal unit for your house.

Gas is peculiarly fitted for air conditioning equipment for houses. The accompanying illustration indicates how little space a gas-fired air-conditioner takes.

As only the gas supply needs regulation automatic controls are very simple. As most controls include a clock thermostat, there is little need for going near the heating plant. Periodic service provided free by the gas company covers that.

As there are many factors that influence the selection of heating equipment—size and shape of house, climate, owner preferences, etc.—you should always get the local gas company to help you choose the right kind and size. An accurate survey of heat requirements is absolutely necessary.



The Modern Bathroom

REACHES NEW HEIGHTS IN BEAUTY AND EFFICIENCY

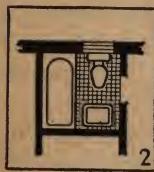
BECAUSE America is a nation of bathers, our bathrooms are the envy of the world, and a symbol of high standards of living. No room in your home is as typical of the times as the modern bathroom, with its free use of color in fixtures, fittings, wall and floor coverings.

Every American would like to have his own bathroom. In the small house this may not be possible, but there should be a bathroom for every two bedrooms, and a powder room, or basement lavatory.

ARRANGEMENT—

Some of the many practical arrangements of fixtures in rectangular and irregular spaces (as small as five feet square) that give variety and charm to the bathroom are illustrated on this page.

Never place the tub under the window. It is difficult to open the window, and the bather is subject to drafts.



FIXTURES—There are so many lovely modern bathroom fixtures that the task of selection is a delightful one. Visit as many manufacturers' showrooms as possible

with your plumbing contractor or architect.

After an extensive preview, you will be in position to decide on colored plumbing fixtures. While it is true that these cost

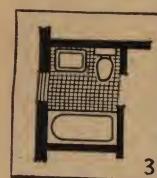
somewhat more than the regulation white, this is only a small part of the total cost of any bathroom. Used correctly, color in fixtures is a most economical way to attain individuality.

After determining color, you are ready to decide on design and style. You will, of course, choose a built-in tub, because it is an easy fixture to keep clean. There are no awkward corners under or around it difficult to reach. The modern built-in tub is easy to get in and out of. If you select one of the newest styles with a seat in a corner, one end, or at the side, you will have just about the safest tub made. And one of the most convenient and beautiful!

The modern lavatory, with its graceful design, is the central fixture of any bathroom. Plenty of slab space, lustrous surface, shining fittings, tubular metal or glass legs, or streamlined pedestals, are some of its features.

The modern closet has been improved in appearance and is more quiet in action. It may be obtained in low, one-piece models, admirably suited to the streamlined bathroom. And in some models the top of the flush tank makes a handy shelf.

All fixtures, as well as fittings, may now



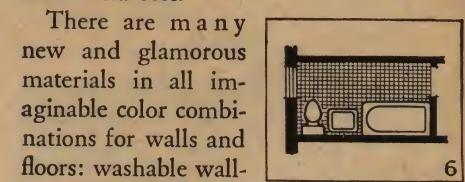
3

be had in matched designs to give an ensemble effect to the bathroom.

Chromium is the most practical and loveliest finish for all bathroom metal. It is easiest to keep bright.

No bathroom is modern without a shower bath, either over the tub or in a separate compartment.

Now that manufacturers are making prefabricated shower stalls, you can have your shower anywhere at little extra cost.

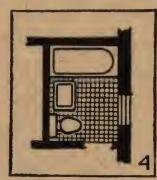


5

There are many new and glamorous materials in all imaginable color combinations for walls and floors: washable wallpaper; cork; linoleum; marble, as well as vitreous, tiling; and all of them sanitary and easy to clean.

Handsome medicine cabinets and accessories offer wide choice in styles. Their fine mirrors should be provided with the new shadowless lighting fittings. One of the newest accessories is a scale built into the wall to save room.

Planning your bathrooms will surely be fun. If you consult an experienced plumbing contractor at every step, and take full advantage of modern fixtures and furnishings, you will gain the satisfaction which comes from lovely, yet utilitarian, rooms.



4



Beautiful DOUGLAS Bathrooms

Beauty with lifetime durability . . . practical utility with absolute satisfaction . . . modernism in good taste . . . these qualities distinguish the Douglas line of better plumbing fixtures . . . available in sparkling white or pastel colors from your licensed master plumber. * * * For fifty-one years Douglas has made plumbing fixtures that guarantee satisfactory service, because they know plumbing fixtures must serve more than any other equipment in the home. * * * Photograph shows the Douglas Mayfair lavatory and Carlton closet in beautiful white Douglas Duralite with chrome fittings. Also available in colors. Before you build or remodel, write for the new FREE color booklet—"BEAUTIFUL DOUGLAS BATHROOMS."

JOHN DOUGLAS CO...Cincinnati, O.
Manufacturers of Better Plumbing Fixtures

Decorations and furnishings that add Charm



Drexel Furniture Co.

THIS special adventure in happiness awaits all who are about to locate and furnish their home. Instinctive in each of us is the age-old urge to create a beautiful, tastefully furnished environment that is *our very own . . . an environment in which we can live and entertain with pride and enjoyment.*

Building the small house in which we plan to live is only the first step on the great adventure. Equally important are the character and quality of its furnishings and decorations. Just what qualities must it have to be in very truth, "home, the spot of earth supremely blest; a dearer, sweeter spot than all the rest"?

Primarily, it must have comfort, beauty and livability . . . the gracious air of culture and re-

finement that marks it as the environment of one who is accustomed to pleasant, constructive living. The very fact that the house is small and that

**AND EXPRESS
YOUR
PERSONALITY**

we might be satisfied to sit or packing boxes, to sit upon a piano shelf, and to store our belongings in some dark corner or box . . . But we know today that the surroundings of our home vastly have a vital bearing on our attitude toward life . . . that they tell other people what we are . . . and accordingly that we may use our best taste and good judgment in their selection.



consequently its furnishings must be limited, makes it all the more important that they be selected wisely and for enduring satisfaction.

If it were necessary to consider only the physical purposes served by furniture, and not its inherent values, then



Drexel Furniture Co.



From This Delightful Window This Charming Home Maker, and Her Son,
Bid You Read On and Behold How Handsome Furniture, Tasteful
Decorations and Lovely, Soft Colors Can Transform an
Inert Thing of Wood, Brick and Concrete, Pipes,
Wires and Machines, into a Happy Home.

Smartness and Good Taste

CAN BE YOURS INEXPENSIVELY

START WITH A DEFINITE PLAN

THE plan's the thing in any activity . . . but especially in furnishing the small home.

You want a smart, comfortably furnished home that will reflect your own good taste, standards of living and cultural background. Then plan it as skillfully as an artist plans a picture. Your house is your canvas. Furniture, accessories, draperies, floor coverings, wall tints and fixtures are your paints. Your own selectivity and good judgment are your brushes.

Visualize the background against which you and your family will feel most at home and happiest, for that is the one that will be most appropriate and becoming. Then create it, bit by bit.

Color is important. Your own personal preferences will dictate the colors you will use. In general you will desire the cooler shades for the sunny rooms, and sunny shades for the darker rooms. You will avoid harsh disturbing colors, selecting the ones that are complementary to each other, even in contrast, in your walls, woodwork, floor coverings and draperies.

Whether you plan to furnish your small home all at once or to add a few pieces at a time, you will decide in advance the atmosphere you want to create. You may prefer the aristocratic air of 18th Century English designs, the courtly French styles, the fine traditional spirit of Early Ameri-

can or Colonial, the gaiety of Provincial, the sophisticated, clean-cut simplicity of Modern or Swedish Modern. Regardless of period, you will avoid fussy, faddy designs and choose, instead, furniture that is authentically styled, well-proportioned for the small home, and built by expert craftsmen. In woods as well as styles, you have a wide range of choice. The regal beauty of mahogany . . . the warm, rich tones of American walnut . . . the sunny charm of maple and birch, and other cabinet woods are available in today's furniture creations.

If you plan to buy only part of your furniture now, and the balance later, make sure that you select the essential pieces first and that the additions are complementary in design. If you now have some pieces of 18th Century English furniture, and want to introduce a fresh modern note, then you will find that Swedish Modern will combine with it beautifully, as will Provincial with Early American.

Give special attention to the name and reputation of the manufacturer and the store from which you buy. Don't confuse so-called bargains with real values. Nationally advertised trademarks are usually the best guide to lasting quality.



WELCOME is the keynote of the successfully furnished small home. A fine console and mirror with a pair of attractive chairs make a hall grouping that is both convenient and decorative.

Lamps, pictures and other decorative accessories are the grace notes that will add livability and charm to your home. The right lamps, the right small decorative objects, books, magazines and flowers are indispensable to the well appointed interior.

So, too, are wall coverings—paints and papers, draperies and curtains around windows, rugs and carpets and the decorative floorings like hard wood parquetry, cork and rubber tile, and the attractive linoleums.

All this means . . . not necessarily a large outlay of money . . . but purposeful thinking and planning to create exactly the effect you want to produce.



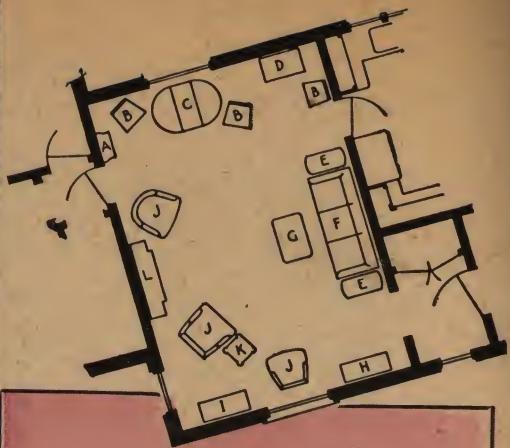
Growing in popularity is the social custom of afternoon tea. An occasional or tea table offers an ideal setting for this pleasant new vogue.



An exquisitely styled lamp is one of the most charming of all complementary accessories for brightening the decorative scheme of the small home. You can find exactly the right lamps to harmonize with your furniture.



18th Century English pieces combined with Swedish Modern prove again the smart effectiveness of "something old and something new."



THE *Living Room* IS FOR JOYOUS LIVING

MAKE your living room what the name implies . . . a room for joyous living! This is where your friends and acquaintances see you and your family "on parade." It is their measuring stick of your good taste in decorative furnishings . . . an accurate reflection of your ability as a home-maker. On their verdict may depend much of your social and business success.

Let both substantial comfort and gracious beauty be the keynote of your small home living room. Plan your floor coverings, wall treatment, and window hangings so that they constitute a restful, decorative background. Venetian blinds will give an effect of spaciousness and smart charm, as well as enable ideal light control

and privacy.

See that your easy chairs and sofa are really comfortable and that their quality is the best you can obtain with the money at your command. On their inner construction your ultimate satisfaction depends. In virtually every American home a good radio is essential. Select a well-styled design. Create cozy conversation groups. Use interesting little tables galore. Tables for games, for lamps, coffee or cocktails, cabinets for books, perhaps a what-not for a prized collection of small art objects, a well-planned writing desk, will provide convenience and beauty.

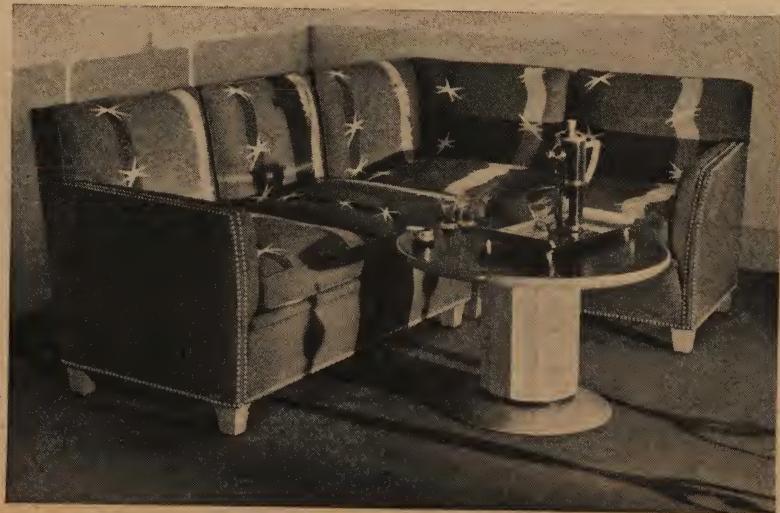
Comfort, livability and charm are all essential to the ideal living room. One delightful setting is suggested above with its floor plan. Certain pieces of furniture are indispensable. At least one sofa (F) and easy chairs (J), of course. A radio (H). The right small tables, which will include end tables, a coffee or cocktail table (G), lamp table (K), occasional tables (E), a gateleg (C) or console card table for games and snacks. A writing desk or book cabinet and desk combination (L). Lamps and small decorative accessories. A few good prints. Flowers, books, magazines add interest and individuality.

In seating pieces you may want to make selections from the new single unit upholstered chairs shown below. These can be combined in a variety of ways, as long sofa, tete-a-tete grouping, loveseat, or used individually.

Lamps are indispensable to the well-appointed living room. They bring it to life and diffuse good cheer. Mirrors offer a glamorous touch that creates an effect of added space. Your own preferences will elect the selection of other decorative accessories.



A writing desk that provides for businesslike efficiency as well as decoration in the small home is a real necessity. This, as you see, provides space for a portable typewriter and other paraphernalia for the writer.



Six Simple Principles OF INTERIOR DECORATION

JUST as your architect or contractor must know before he plans or builds your house how much you are going to spend, what kind of a house you want, and a hundred other details, so should you have definite ideas about how you are going to furnish and decorate it before you buy even an ash-tray.

An attractive interior does not just happen. It is the result of careful study to get maximum comfort and liveableness out of available space: careful study of the rooms themselves, the effect you are trying to create and the amount of money you have to accomplish it.

Good taste is born of simplicity, which means you need not spend a lot of money to get results—it means wise buying.

Here are some suggestions which will help in your study:

1. Buy on a Budget: Decide how much you can spend and be sure that everything you want can be had within your budget.

Experience indicates that a reasonable budget for furnishing and decorating a new house should be from 20% to 25% of the cost of the house itself. If you cannot afford such an outlay all at once, make a three or a five-year plan and buy the essential pieces first, gradually adding to them. Don't think that you have to buy all new furnishings when you move into your new home. The joy and thrill of "New" continues so long as you know that you can afford to add lovely things year after year. There are always touches here and there that will make it more attractive.

2. Buy Quality: Do not sacrifice quality in the essential pieces that you expect to give years of service. Quality in material and craftsmanship never disappoints. And, in design, quality means lasting beauty.

3. Buy Appropriately: Remember that the character of the small house is informality, friendliness, simplicity, honesty. You do not need elaborate pieces. A tawdry imita-

tation will never deceive anybody.

4. Furnish to a Plan Based on the Family's Needs and Habits: It is not difficult to find good pieces that will fit the family and, also, harmonize with the general decorative scheme. Each room should be restful but with cheery atmosphere. There must be places to read, to study, to entertain.

5. Work Out a Definite Scheme for Each Room: Determine the personality and appearance of each room—whether it is to be formal or informal; modern or traditional. Work out color schemes for each room that will harmonize with the others.

6. Be Yourself: You can use the principles of good design, color harmony, etc., which, after all, are nothing more than evidences of good taste, to express your individuality. Remember it is *your* home—in which you will spend many happy years, where you will live, work, entertain; eat and sleep, read and grow. Put *yourself* into it as fully as possible.



"Help me to choose my Furniture!"



Early American chest and dresser base in regal solid mahogany. Sleigh bed with lovely sweeping curves.

Server inspired by a dainty Sheraton table—for dining or living room.



BEDROOM, DINING ROOM
AND OCCASIONAL FURNITURE



DREXEL
answers your call!

The days of buying a commonplace *suite* of furniture are over! Pick your furniture piece by piece, and you'll have a distinguished room. Send for the Drexel booklet and discover how easy this can be. You'll see over fifty beautiful mahogany reproductions and adaptations of lovely 18th century pieces—simply pick those you like best. All Drexel pieces harmonize with each other. You can buy a few pieces now, and add more next year! Start with fine Drexel furniture, and you set a gracious keynote for your home, you have a decorative theme around which to build for a lifetime! Send coupon for booklet, today!

Dept. NSH, DREXEL FURNITURE CO.
Drexel, North Carolina.

I enclose 10c. Please send me your booklet "So You Want To Furnish With Fine Reproductions!"

Name.....

Street.....

City..... State.....

Hospitality

FOR THE DINING ROOM

SO you're going to have a dining room! That's delightful—and sensible. It's so much more decorous to have a separate room in which to take your meals, and so much more pleasant for your guests to be called from the living room to a room where the table is set with lovely linens and china, shining silver and crystal, and surrounded with graceful chairs in finely finished woods.

Today, as since the dawn of time, one of the friendliest and most gracious of all social gestures is entertaining at dinner. Simple or elaborate, the occasion is always one that requires thoughtful planning and preparation . . . fastidious attention to every detail. The menu is important. So is the entertainment scheduled for the evening. But *particularly important* is the atmosphere of your dining room.

What style shall your dining room be? There are three favored by decorators today and when you come to buy your furniture you will find wide choice in any of the following:

18th Century English—handsome, impressive.

Colonial—charming, hospitable.

Modern—vivid, gay, exciting.

There is no reason why the dining room of the small home should not be as beautifully furnished as that of a mansion. In recent years, manufacturers have created lovely authentically-styled junior dining room furniture in a wide variety of designs. You may wish to buy just the essential

pieces as a nucleus for later additions. You will need at least a table, chairs, and china closet or buffet. Later, you can add a serving table, corner cabinet and other convenient pieces. Be sure that your dining furniture is well-built and sturdy. Nothing is so annoying as tottering furniture. See that the chairs are comfortable. See, too, that the table is of ample size and that the cabinet pieces are thoughtfully planned, with plenty of space for china, glassware, silver and linens.

Introduce color in your floor covering, walls, hangings. Dinner services are now available in every conceivable type, from gay fiesta to egg-shell china, in lovely combinations of color. Linens were never more glamorous and varied. They will bring individuality, hospitality and good cheer to the dining room of your small home.



Dear to every woman's heart is a tastefully appointed dining room. Fine dining furniture, lovely table accessories, have launched many a hostess on the road to social success.



Junior Dining Room Server



Junior Dining Room China Cabinet



Junior Dining Room Host Chair



Junior Dining Room Dropleaf Table



Junior Dining Room Side Chair



Junior Dining Room Buffet



Junior Dining Room Extension Table



Drexel Furniture Co.

Select the essential pieces first . . . and add harmonizing pieces later when the room is enlarged. Here is a beautiful room furnished with 18th Century reproductions finished in sun tan.



You can have every piece in your room individually interesting! The original pineapple bed, from which the reproduction at the left was made, belonged to a Colonel in the Revolutionary war. The chest is a replica of one found in the same home.



Tastefully furnished in 18th Century style done in mahogany veneer finished in soft sun tan.

LET YOUR BEDROOM REFLECT *Your Personality*

THINK of the pleasure of others as well as your own in planning the furnishings for most of your small home . . . but of *your* individual comfort (plus your room-mate's, if any) in planning the room-of-your-own.

Let your bedroom reflect your personality, your interests, your preferences. Have it as large and as pleasant as you can devise. Select the furniture and accessories that are most appropriate and in keeping with personal needs. For no other room in the home is the range of selection so delightful and varied.

There are styles to suit every taste. Masculine votes are usually cast for the more rugged versions, such as Early English, Early American and some of the classically simple Swedish Modern creations that are now available. French Court styles, especially Louis XV with its dainty decorative charm, are ideal for the purely feminine

room. For furnishings schemes that are equally pleasing to both men and women, there are the gracious aristocratic designs of the 18th Century English period, the fine traditional Colonial styles of our own country, and the distinguished clean-cut beauty of good Modern design. Personal taste is the best arbiter of the designs you will select for the bedrooms in your small home, as it is of the colors you will want to introduce.

In addition to the major pieces of furniture in the sleeping room, a personal desk for odd-moment writing and stowing away of papers is convenient. An easy chair or two, the right lamps and a chairside table may complete the furnishings. Personal accessories, fresh crisp curtains and draperies, restful walls, and a very few pictures will add the touches of comfort and cheer so indispensable in the room-of-one's own.



The charm and grace of modified Louis XV styles are irresistible, and especially appropriate for a young girl's room.



For the modern-minded, Swedish Modern originals are an ideal choice and offer an excellent opportunity for individual decorative effects.



Graceful and dignified is this 18th Century Chippendale design in mahogany veneer accentuated by hand padded finish.

These illustrations exemplify only a few of the countless charming possibilities at your command for furnishing bedrooms in your small home. Your furniture dealer will be delighted to show you these and other smart new creations.

A Well-Lighted Home

ADDS CHARM TO COMFORT



TH E lights of home—smooth as silk, soft as velvet! Pleasantly restful to the eyes. Good lighting helps so much in creating that pleasant, healthful, homelike atmosphere which blends so perfectly the elements of the small home—charm and comfort. *Enough* light of the right *quality* improves the looks of your home, protects your eyes from strain, and guards you against accidents.

There follow brief descriptions of the minimum number and kinds of lamps for the different rooms in your home. With

HALLS. For entrance hall a Ceiling Fixture (A) is preferred—with a 60-watt bulb. Wall Brackets (G) are optional if architectural arrangement does not allow for a Ceiling Unit. In all other halls either a Ceiling Fixture or Wall Bracket is optional. Use 60-watt bulbs.

LIVING ROOM. The most used room in your home demands good lighting, particularly for close visual tasks. It requires a 200-watt Ceiling Fixture (A); at least 3 I.E.S.* Better Sight Lamps:—1 Floor type (E), of from 100 to 300-watt capacity; 1 End-Table type (F)—100 watts; 1 Study type (D)—100 watts.

DINING ROOM. Here the table, as the most important part of the room, should have a semi-indirect type 150-watt Ceiling Fixture (B) directing good downward light well diffused on the table but out of the eyes of the diners. Decorative lights

such as 25-watt Wall Brackets (G) may be added, but do not depend on decorative lighting to properly light this room.

KITCHEN. This, the workshop of the home, must have good glareless, shadowless lighting. It requires a Ceiling Fixture—semi-indirect or enclosing globe type—such as (A) with a 150-watt bulb. At work centers such as the range and sink there should be Wall Brackets (L) well shaded—with 60-watt bulbs in each.

BATHROOM. Here, the proper lighting of the mirror is most important. A Wall Bracket on each side is desirable—preferably lumiline lamps or diffusing glass cylindrical type (K)—60 watts each. If the bathroom is large—over 8x8 feet—a 100-watt Ceiling Fixture (A) should be added.

BASEMENT OR RECREATION: Of greatest importance here is a well-lighted stairway. The room should have a 100-watt Ceiling Fixture (A) if the height permits and 1 or more Wall Brackets (G) with 40-watt bulbs. Otherwise, Bracket Units to light all parts of the room—60 watts each.

BEDROOMS. Require good general illumination from a 150-watt Ceiling Fixture—semi-indirect type (B). A pair of Vanity Lamps (I) about 18 inches in height are a necessity on the dressing table—75 watts each. For twin beds an I.E.S.*

100-watt Table Lamp (F) or Wall Lamps (H) over each bed—75 watts each. For double beds, at least one—preferably two, I.E.S.* 100-watt Reading Lamps (D).

ENTRANCE. At front entrance at least one light should be installed at side of doorway or over the door. The Lantern type (N) is most popular—60 watts. Rear or side entrances should have a light installed in the same manner as the front entrance—60 watts. On all garages, whether attached or detached, there should be one light (M) over the door (75 watts) or two (N) on the sides (40 watts each). One Ceiling Unit (A) or two Wall Brackets (G) are necessary in the garage (with 75-watt bulbs).

*Illuminating Engineering Society

USE THIS CHART FOR YOUR CHECK LIST

IDENTIFICATION MARK AND TYPE OF FIXTURE		FRONT HALL	REAR HALL	LIVING ROOM	DINING ROOM	KITCHEN	UTILITY ROOM	BASEMENT	BEDROOM 1	BEDROOM 2	BATH	CLOSETS	GARAGE	LAUNDRY
A	CEILING FIXTURE (Lights—shaded)													
B	CEILING FIXTURE (Semi-Indirect)													
C	CEILING FIXTURE (Hanging)													
D	STUDY LAMP													
E	FLOOR LAMP													
F	TABLE LAMP													
G	WALL BRACKET													
H	PORTABLE WALL LAMP													
I	VANITY LAMPS													
K	BATH MIRROR LAMPS													
L	RANGE LIGHT													
M	FRONT ENTRANCE— EXTERIOR													
N	REAR ENTRANCE— EXTERIOR													

PLANNING YOUR DECORATIVE SCHEME

Composing your decorative scheme is a good deal like composing music. You have to compose each room in a certain key. Any key you like, but once chosen it's smart to keep your overtones and undertones in harmony with the dominant chord sounded by the furniture. That means not only curtains and draperies, but also upholstery fabrics, slip covers, pillows and cushions. Lamps, too, and vases and ornaments should bring definite tone-colors. Ash trays, desk sets, toilet articles on the dressing table, and all the knick-knacks we pick up here and there, even book-jackets—a bright paper cover may look very dashing—should be chosen with an eye to their part in the decorative scheme.

1. *Make a Plan of Each Room* and locate on it each piece of furniture to assure maximum use of windows and wall spaces. Place principal pieces around focal points, such as the fireplace, or a large window. Provide traffic lanes, and balance small and large pieces. (See page 54.) Group pictures to fit the furniture. Plan carefully for day as well as night lighting (See page 58). Large, well-placed mirrors will make a small room look twice its size and bring in a glowing touch of outdoors.

2. *The Basic Decorative Theme* is, of course, determined by the dominant period style of furnishing, such as Swedish Modern, Early American, 18th Century, etc. In the small home, the best results will be obtained if this theme be followed out as closely as possible in every room.

3. *Start with the Floor.* The size of the floor coverings and their color and texture must fit the general theme. In the small room, avoid the confusion of large patterns and brilliant colors. Solid colors in simple designs are best.

4. *Next Come the Walls and Windows.* Here light colors should be used with not too large patterns in the wallpaper. Small spots of bright color help the general effect but large patterns and heavy colors decrease the size of a room.

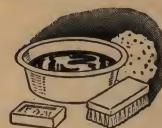
The walls offer the largest expanse of color and carry the background tone of the whole color scheme. Today's wallpapers offer a wide range of designs, from graceful floral patterns in gay colors, to prim, lacy patterns in delicate tints and neutral backgrounds. Good wallpaper can work wonders to beautify your home, and is traditional for rooms done in Early American.

And for painted walls consult your contracting painter, who has sound knowledge of color combinations and how to effect them. (For Interior Paints see page



New WALLPAPER SENSATION! Paint-Coated..Scrubable as Tile!

DULL FINISH



Tiny fingerprints, radiator smudge, soot, grease—practically any kind of stain—can be washed off DURAY Wallpaper as easily as washing tile! That's why mothers—and everybody—are hailing this sensational new paint-coated wallpaper that keeps new-looking for years with soap and water!

No other wallpaper is made like DURAY. First it is painted with the equivalent of two coats of baked-on dull-coat enamel. Over this surface, the pattern is printed in washable lacquer-type inks. It is actually paint-in-rolls... com-

bining the stain-resistance and washability of paint with the smart patterns and rich dull velvety finish of finest wallpaper. That's why DURAY is more than washable—it's SCRUBBABLE! You can actually scrub it with a brush, and soap and water, without "fuzzing."

You'll love DURAY's appearance, and you'll appreciate DURAY's economy, because it keeps new and fresh-looking for years. See the new 1938 DURAY line... styled by leading American designers, and moderately priced... at decorators, wallpaper dealers and leading department stores.



A glimpse of two of the 150 smart patterns available in DURAY.



At wear-points, dirt, smudge, grease can't stain it—wash off DURAY's dull finish paint-coated surface with soap and water.



Fingerprints, pencil marks, etc. wash off in a jiffy. Leave no traces—no streaks, no fuzz, no watermarks.

DURAY
The Paint-Coated Wallpaper
SCRUBBABLE AS TILE

Send for FREE SAMPLES

Write CLOPAY CORP., 1360 Exeter St., Cincinnati, Ohio, and we will send you free samples of the new 1938 DURAY patterns, and give you name of nearest dealer. Just clip off this corner, write your name and address on margin, paste on postcard.



**One of These Window Shades
Costs 15c..the Other \$1.50**

**Can You Tell
WHICH IS WHICH?**



Above guaranteed to be exact photographic reproductions of shades named*

**In Actual Tests 3 Women Out of 4 Thought the
15¢ CLOPAY Lintone
Looked the More Expensive**

See These Amazing Shades at
Neighborhood and 5c & 10c
Stores Everywhere

A REMARKABLE new cellulose material is found to be far more practical for window shades. Hangs straight, rolls evenly, doesn't crack, curl or pinhole. Wears amazingly. More than that, an exclusive CLOPAY process produces a lovely *Lintone* texture that so resembles fine-count linen as to astonish women everywhere. In actual tests, 3 out of 4 women viewing a 15c CLOPAY *Lintone* beside a \$1.50 shade only 4 feet away, thought the CLOPAY was the more expensive shade! (Affidavit on file.)

ONLY CLOPAYS ARE LINTONED

CLOPAY *Lintones* come in a wide variety of colors to fit any decorative scheme. Cost only 15c, ready to attach in a jiffy to old rollers with patented CLOPAY gummed strip. No skill, no tacks, no tools needed. On new rollers, including molded shade button and new EDGE SAVER brackets, 25c. CLOPAYS are sold at 5c & 10c and neighborhood stores everywhere. But be sure to ask for AND GET genuine CLOPAY *Lintones*—America's fastest selling window shades—the only fibre

*Did you guess correctly? The shade at lower left is the CLOPAY *Lintone*. Try it on your friends.

window shade with the rich, exclusive finish that looks like linen.

CLOPAY Washable Shades

WITH THE RICH LINTONE TEXTURE

For only 10c more per shade you can now get window shades made of the costly-looking CLOPAY *Lintone* material PLUS a coating on both sides of expensive oil-paint finish that's 100% washable! All you need is plain soap and water. Grime, grit, soot, stain, and finger marks wash off like magic with never a streak, ring or watermark. CLOPAY WASHABLES come in a variety of colors, all with the exclusive *Lintone* texture that resembles fine-count linen. CLOPAY WASHABLES on new rollers including new EDGE SAVER brackets and molded shade button, cost only 35c for 36"x6' size. At 5c and 10c and neighborhood stores everywhere. For sample swatches of both type CLOPAYS, send 3c stamp to CLOPAY CORPORATION, 1357 Exeter Street, Cincinnati, Ohio.



CLOPAY LINTONE WINDOW SHADES

61.) The height of walls can be reduced by horizontal lines, or borders, at top or bottom. The simplest way to do this is by darker shades below a chair rail or above a picture mold. Wainscoting of wood panelling, painted or stained, or of cork tile tinted to match the color scheme will give a highly decorative effect.



Highly decorative vanity lamps, mirror and vanity case are in balance with the simple dressing table, large-patterned rug and plain wall-paper.

Your house today poses a real problem in window treatment. The trim around openings must match the general color scheme and textures and patterns must fit the furniture and rugs. To bring this about you have wide choice of colors, fabrics, patterns, etc., for any style of room, as, for 18th Century, formal fabrics like damasks and taffetas; for informality, printed fabrics with floral patterns on dark backgrounds. Generally the draperies are of darker shades than the walls.

All windows look better with soft tan shades for a neutral background. And they let in daylight without glare. Venetian blinds go well with almost any furniture.

Glass curtains are made from different materials. Rayons give a luxurious appearance and are washable. For the gay, informal window inexpensive cottons will do nicely.

Every window offers another opportunity to improve your composition, and you don't have to stretch your budget to do it. You can start with shades and glass curtains, and add later draperies, valances and similar accessories to harmonize with and enhance your color symphony.

5. *Have a Definite Color Scheme.* Use color boldly for accent: Yellows and reds for warmth, blue and greens for coolness.

Here are some suggestions for color:

For the informal modern living room—
Multicolored cool-textured rugs; warm tan
walls; soft green and wood tones for pat-
tern, and rough-woven fabrics in draperies.

For a bedroom in floral colors; a rug in
pastel shades to harmonize with rosy peach
walls. A cool blue bedspread, which gives
light and cheer.

And for a formal but gracious living
room—rich wine-tone wool-pile rug with
soft blue walls and draperies of striped
and flower-patterned fabrics.

Pictures, lamps, and ornaments can also
provide sparkling and vivid spots of color
against neutral backgrounds.

6. Have Plenty of Light. Before you can
have any color at all, remember you must
have what creates color—light! Good light
is a vital part of home decoration. It not
only brings life to your color arrangement,
but it also protects your most precious pos-
session, your eyes. So have plenty of light,
with properly shaded lamps to give correct
illumination without glare. See that your
lamps not only give good light, but also
harmonize with your room tones.



Good, if severe, period furniture and neutral
flat walls enlivened by a Chippendale mirror
and gay draperies. The graceful vases add
needed spots of color.

By reflecting light mirrors echo every
note of color harmonies. Big ones . . .
little ones . . . spread-eagled aristocrats
in golden frames for your early American
room . . . small mirrors for the dressing
table . . . tall framed wall mirrors that
double the size of narrow rooms . . . are
essential parts of today's decorative scheme.
7. Stick to the Informal. Never forget that
color, scale, design, and texture must be
harmonious. When in doubt, choose the
simpler thing—it goes with the small house
and is always good taste anywhere.

INTERIOR PAINTS

(See also Exterior Painting—Page 30)

INTERIOR paints are divided into
three kinds of products: (1) ordinary
wall paints classed as flat, semi-gloss
and gloss; (2) *enamels* for use on trim and
for bathroom and kitchen walls where a
hard durable surface is wanted, and (3)
water-thinned paints which range in quality
all the way from wall and ceiling paint
of exceptional color interest and light
reflecting values down to the cheapest cal-
cimines and white wash. In addition there
are special finishes for wood work, such as
stains, varnishes, shellacs, waxes, oils, etc.

Most *interior oil paints* are mixed paints
and the labels on the better quality products
will usually show a fairly high percentage
of lithapone or titanium and a relatively low
percentage of calcium (chalk), gypsum and similar inert ingredients.
There are the paints used on *plaster* and *woodwork indoors*.

The *enamels*, having a harder, more endur-
ing surface, contain rather expensive
oils and very finely ground pigments.
The *lacquers*, which are also used like
enamels, use a totally different kind of
liquid that dries rapidly and makes a hard
washable surface; because of their quick
drying properties they are often difficult
to apply with a brush.

Among the *water-thinned paints* are
many high quality products suitable for
decorating walls and ceilings that are not
subject to abrasion and wear. These wash-
able water-thinned paints have more brill-
iant color and somewhat higher light reflec-
ting values than oil paints; they are
easier to use and are often preferred for
their decorative values. They can be easily
redecorated and do not require removal
from the wall before each new coating.
The lower quality water-thinned paints,
such as the calcimines, are also made in
washable types but they do not have as
much durability and are generally em-
ployed for ceilings where a flat finish is de-
sired and for very low cost work.

Stains come in various colors, closely re-
sembling natural finishes, or heavy enough
to disguise the original wood. *Varnishes*
and *shellacs*, both with and without pig-
ments, are used wherever a highly reflec-
tive surface is wanted, as on a floor. *Waxes*
and *oils* are usually applied over stains or
natural wood to produce soft, dull surfaces.

Important to interior painting are dry,
clean and smooth surfaces, for walls and
floors, with their large, plane areas, reflect
every dirt spot and unevenness. Good
paint is washable, of course, and in places
likely to soil quickly a semi-gloss or gloss
paint is best because it will clean readily.

**THIS PAINT
does more for your rooms
and furnishings**



For beautiful walls
and ceilings, paint
with LUMINALL.

This paint does more
for your rooms and
furnishings because its pigments are un-
obscured by oil-film. All tints and colors
are clear and true.

Very Economical

Aside from its greater beauty, there are
other advantages to LUMINALL paint.
It covers in one coat; hence, marked
economy in labor and paint costs. Dec-
orating takes less time and is less disturb-
ing because LUMINALL is practically
odorless and dries in 40 minutes. It has
remarkable qualities for making both
artificial and natural light more effective.

Use LUMINALL Wherever Flat Paint Is Desired

Use it wherever a flat paint is desired.
Recommended by architects, decorators,
painters and home-owners everywhere.

Now, with our greatly enlarged manu-
facturing facilities, you too can have gen-
uine LUMINALL. Sold only by auth-
orized dealers—ask for name of the one
nearest you.

Now! a New and Better Exterior Masonry Paint

Painting masonry? For beautifying and
protecting concrete, stucco, or brick, use
"OUTSIDE" LUMINALL. It's the sensation
in exterior masonry paints. It's the only one-
coat paint that may be applied on either new
or painted surfaces. Much easier to apply.
Whitest of whites, and beautiful colors. De-
scriptive literature on request.

LUMINALL for All Interiors

NATIONAL CHEMICAL & MFG. CO.,
3619 South May St., Chicago.

Please send Interior Decorator's Chart showing
how to select wall colors to harmonize with pres-
ent color schemes of home furnishings. Literature
on "OUTSIDE" LUMINALL for masonry exteriors.
 Name of nearest Luminall dealer.

Name

Address

Modernize

TO KEEP THE OLD HOUSE YOUNG



DOES your home need repairs? Do you want to make alterations? Or improvements? Now they can be made through a Modernization Loan, on the most favorable terms possible, from private lending institutions under the Property Improvement Plan of the Federal Housing Administration, made possible by the recently amended National Housing Act. Under it the Government can insure improvements, or additions to existing structures, up to \$10,000, and repayments, suited to your income, can be made on a monthly, semi-monthly, or weekly basis and spread over a period of five years. The charges, including interest, will not be more than the equivalent of \$5 discount per \$100 original face value of the note, payable in equal monthly installments. For example, if you want to borrow \$500—

FOR	YOU SIGN A NOTE FOR	AND PAY MONTHLY
1 Year	\$526.32.....	\$43.86
2 Years	550.61.....	22.95
3 Years	574.90.....	15.97
4 Years	599.19.....	12.49
5 Years	623.48.....	10.40

WHAT FHA CAN DO TO TURN OLD INTO NEW

The requirements for such loans are simple. You must either own your property or have a lease on it running at least six months longer than the term of the loan you are seeking.

Every house needs repairs and upkeep regularly. If they are neglected, future costs mount rapidly, as deterioration proceeds, and any house quickly loses value both as a dwelling place and, more important, as an investment. Look carefully at your property today. What is the condition of your investment? Is it in good shape or shabby and run down?

On the next page is a list of questions that will help you check the condition of your home today. When you have answered each "Yes" or "No" you can plan your modernization program intelligently.

The only items not eligible are those that are removable and not a part of the house or property, such as furniture and equipment like rugs, draperies, furniture, stoves, refrigerators. Architectural services may be included as a legitimate expense, for even small expenditures are more wisely made when they are done on the advice of experts.

FHA will also insure loans for New Structures, such as—a garage, a guest house, a green house, service buildings. Such loans may be made for \$2500 or less with repayments spread over a period of 7 years. Charges are less than for loans on alterations and additions.

To get a loan for improving your property all you have to do is get a written estimate from a reputable contractor or builder and go to a local bank, building and loan association, or financing institution approved by the Federal Housing Administration. There you make out an application, and, when it is approved, sign a note with repayment terms calculated to suit your budget. The money is immediately available; the bank will make payments as the work progresses.

USE THESE LISTS TO CHECK THE CONDITION OF YOUR PROPERTY

THE BASEMENT

1. Are foundation walls in good condition and water-tight?
2. Is there enough natural light?
3. Ventilation?
4. Is the floor paved?
5. In good condition?
6. Is the heating plant satisfactory?
7. Easy to operate?
8. Is the water-heating system satisfactory?
9. Does it give plenty of hot water?
10. Is the laundry up-to-date?
11. Are the tubs satisfactory?
12. Is the structural timber in good condition?
13. Free from termites?
14. Have you a recreation room?
15. Is the wiring and lighting adequate and safe?

An unsightly cellar transformed to an attractive Recreation Room.



BEFORE

FIRST AND SECOND FLOORS

1. Are floors in good condition?
2. Are walls and ceilings decorated attractively?
3. Do doors and windows work easily?
4. Are they weather-tight?
5. Double-glazed?
6. Have you a fireplace?
7. Does it draw properly?
8. Is the fireplace mantel attractive?
9. Are chimneys fire-safe?
10. Have you enough built-in features—book-cases, etc.?
11. Is the kitchen well-planned?
12. Enough storage and working space?
13. Is sink modern, easy to keep clean?
14. Is there good ventilation?
15. Is floor easy on the feet?
16. Have you a dining alcove or breakfast nook?
17. Is it satisfactory?
18. Is trim and woodwork in good shape?
19. Are stairs convenient, safe, well-lighted?
20. Have you enough electric outlets and up-to-date fixtures?
21. Are they properly located?
22. Have you enough room?
23. Are bathroom facilities satisfactory and modern?
24. Is the plumbing system in good condition?
25. Have you a finished attic?
26. Is it well-lighted and ventilated?
27. Are floors and interior walls insulated against noise?
28. Have you enough radiators?

THE EXTERIOR

1. Are exterior walls in good repair and weather-tight?
2. Are walls and roof insulated against heat and cold?
3. Has exterior woodwork been painted in the last 3 years?
4. Is sheet-metal work in sound condition?
5. Is your roof weather-tight?
6. Are chimneys in good condition, no loose bricks or stones?
7. Are shutters in good shape?
8. Are fences and walls in good order?
9. Have you enough trees, shrubs and flowers?
10. Is your lawn free from weeds?
11. Are walks and driveway in repair?
12. Does your land drain properly?
13. Have you enough exterior lighting?



AFTER

ELIGIBLE IMPROVEMENTS, ALTERATIONS AND REPAIRS

Following are some of the additions or improvements that you can make through a Modernization Loan.

1. A NEW HEATING SYSTEM—automatically controlled heat for comfort, convenience and economical operation.

2. NEW PIPING—to provide a full flow of hot and cold water at all times.

3. A WATER-SOFTENER—to make hard water easier to use.

4. A RECREATION ROOM—for cards, ping-pong, etc.; a place for the children on rainy days.

5. LAUNDRY TUBS that are sanitary and easy to work at.

6. A LAUNDRY CHUTE will save many steps.

7. AN INCINERATOR is a sanitary and convenient time-saver.

8. NEW ELECTRIC WIRING AND FIXTURES—Scientifically-designed lighting gives the right light in the right place and eliminates glare.

9. NEW DOORS AND WINDOWS—

for better light, and, double-glazed, to better shut out cold.

10. A BAY WINDOW added to dining or living room brings light, beauty and spaciousness.

11. NEW FLOORS are easy on the feet and easy to keep clean.

12. A NEW FIREPLACE brings additional comfort and beauty.

13. ADDITIONAL MIRRORS, especially over the mantel, add spaciousness, light and beauty.

14. A LIVING PORCH, glassed and screened will bring to your house more elbow-room.

15. EXTRA ROOMS—a library, another bedroom and bath, or a powder room on the first floor.

16. A REPLANNED KITCHEN—efficient storage, cleaning and cooking centers save steps and drudgery.

17. A FINISHED ATTIC with extra bedrooms or a recreation room makes a big house out of a little one.

18. AN ATTIC STAIR of the dis-

pearing kind makes it possible to use the attic space for storage or extra rooms.

19. A NEW ROOF to replace one that has served its time.

20. A REAL PAINT JOB, inside and out, protects, preserves and beautifies.

21. GARDEN WALLS and FENCES are attractive and protect your property.

22. A GARDEN FOUNTAIN is pleasantly cooling, and the birds love it.

23. A WADING POOL for the children doesn't take much room.

24. A ROCK GARDEN is a feature of good landscape gardening.

25. NEW TERRACES, WALKS, DRIVES add beauty and utility to your grounds.

26. A NEW LAWN and MORE TREES, SHRUBS and FLOWERS will give your house a lovely setting.

27. A WELL and pumping equipment for healthful water supply.

28. ANOTHER CISTERNS for the home that needs to store plenty of water.

The "Before" and "After" pictures on this and page 62 are from Johns-Manville Home Idea book.

\$500.00 in Prizes

FOR LETTERS ABOUT YOUR NEW HOME!

Your NEW HOME—either started or finished in 1938 or to be built in 1939—can help you earn one of these generous cash prizes. All you need do is to write a letter about some advertised product you selected, telling why you chose it for your home.

Subject to the simple Contest Rules printed below NATIONAL SMALL HOMES BUREAU, Inc. will award the following 28 CASH PRIZES for letters about Building Materials, Equipment, Furnishings and Decorations.

CLASS I—HOMES STARTED OR FINISHED IN 1938

A—Letters about any product ADVERTISED IN THIS BOOK:

Seven Prizes Totaling \$100
FIRST PRIZE \$50.00
SECOND PRIZE 25.00
5 PRIZES Each 5.00

B—Letters about any NATIONALLY ADVERTISED product for the home.

Seven Prizes Totaling \$100
FIRST PRIZE \$50.00
SECOND PRIZE 25.00
5 PRIZES Each 5.00

CONTEST RULES—Read Carefully

1. This contest is open to any bona fide owner of a home completed or started in 1938 for prizes offered in Class I; and to any person planning to build in 1939 for prizes offered in Class II.
2. Just write and send in a letter not more than 250 words long about some product you used, or plan to use, and your reasons for selecting it. Letters must be legibly written or typewritten, on one side of the paper only.
3. All letters must name the product and the manufacturer and give the address of the house, or the location where it is to be built, and the

CUT COUPON HERE

BUILDING MATERIALS

- 1 Copper, Brass and Bronze Throughout Your Home
The American Brass Co.
- 2 New Money Saving Ideas for Home Builders
The Celotex Corp.
- 3 Chamberlin Weather Strips and Screens
Chamberlin Metal Weather Strip Co.
- 4 Chief House Paint
- 5 Du-Kwik 4-Hour Enamel
- 6 Interior Gloss Finish
Chicago Paint Works
- 7 Coriuco Cork Flooring
Cork Insulation Corp.
- 8 Year Round Insulation
Kimberly-Clark Corp.

- 9 Window Conditioning
Libbey-Owens-Ford Glass Co.
- 10 Check Your Wiring
National Adequate Wiring Bureau
- 11 LUMINAL Color Card—No. 1
- 12 Interior Decorators Chart—No. 4
- 13 OUTSIDE LUMINAL Color Card—No. 42
- 14 OUTSIDE LUMINAL—No. 62
National Chemical & Mfg. Co.
- 15 For Home Lovers
- 16 New Interior Ideas in Wood
- 17 Soft Warm Beauty of Panelling
- 18 Why Wood Walls Are Best
National Lumber Manufacturers Ass'n.
- 19 Why People Like Concrete Houses
Portland Cement Ass'n.
- 20 Your Home of Burned Clay Masonry
Structural Clay Products Institute

National Small Homes Bureau, Inc.
572 Madison Ave., New York, N. Y.

Please arrange to get me the booklets checked above.

I expect to build about

(Write Date Here)

Name

Street

City State

ANC

CHECK
HERE

if you would
like future
issues of
SMALL
HOME
BUILDERS
YEAR BOOK.

CLASS II—HOME TO BE STARTED OR FINISHED IN 1939

A—Letters about any product ADVERTISED IN THIS BOOK:

Seven Prizes Totaling \$200
FIRST PRIZE \$100.00
SECOND PRIZE 50.00
5 PRIZES Each 10.00

B—Letters about any NATIONALLY ADVERTISED product for the home.

Seven Prizes Totaling \$100
FIRST PRIZE \$50.00
SECOND PRIZE 25.00
5 PRIZES Each 5.00

8. All letters or other material entered in this contest become the property of NATIONAL SMALL HOMES BUREAU, Inc., and may be published or otherwise used at its discretion.

9. No letters or other entries will be returned.

10. CONTEST CLOSES AT MIDNIGHT, MARCH 31, 1939.

Address entries to: Contest Judges
National Small Homes Bureau, Inc.
572 Madison Avenue, New York, N. Y.

START NOW! ENTER THIS CONTEST. ENTRIES MAY BE SENT IN AT ANY TIME UP TO THE CLOSING DATE.

HOME EQUIPMENT

- 21 Planning the World's Easiest-to-Keep House
American Gas Ass'n.
- 22 Light for Seeing
Better Light, Better Sight Bureau
- 23 Breez-Air Attic Cooling Fans—No. 3085-H
- 24 Buffalo Kitchen Ventilating Fans—No. 2892-H
Buffalo Forge Co.
- 25 Home Heating Helps
Burnham Boiler Corp.
- 26 Beautiful Douglas Bath Rooms
The John Douglas Co.
- 27 Designed for Living—Electric Kitchens by Hotpoint
- 28 Hotpoint Electric Kitchens
(Special feature attractions for Demonstration Homes)
Edison General Electric Appliance Co., Inc.
- 29 Comfort & Cleanliness in Your Home—Form No. 133
Holland Furnace Co.
- 30 Let's Talk About Electric Kitchens
The Modern Kitchen Bureau
- 31 The Key to Secrets of Better Heating
National Coal Ass'n.

HOME FURNISHINGS

- 32 Presenting Duray, the Paint-Coated Scrubbable Wallpaper
- 33 Color Samples of Famous Clopay Fibre Window Shades
Clopay Corporation
- 34 So You Want to Furnish with Fine Reproductions
Drexel Furniture Co.

HOME INSURANCE & FINANCE

- 35 Electric Service with Safety
- 36 If Your Home Burns Tonight
- 37 Stop Fire
Federal Mutual Fire Insurance Co.



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**BUILDING
TECHNOLOGY
HERITAGE
LIBRARY**

<https://archive.org/details/buildingtechnologyheritagelibrary>

From the collection of:

Alan O'Bright

Now you have finished your brief venture into the magic land of Home-Making, along the winding paths of Design, Finance, Construction, Equipment, Furnishing and Decorating. We hope you have enjoyed your leisurely journey through these pages. Because it is our job to explain to people the whys and wherefores of Home-Ownership, we hope you have found them readable and informative. Please believe us when we say we have tried hard to make them so.

If you like this book, won't you write and tell us? If you didn't like it, if you didn't find in it answers to questions that are bothering you, *do* write us. We want every helpful suggestion we can get, and we are sure we can find right answers to your questions.

In closing, our wish for you is the lasting satisfaction that comes only from a Home that embodies Good Design, Sound Construction, and Quality Products.

SMALL HOME BUILDERS YEAR BOOK 1938-1939

a Publication of

NATIONAL SMALL HOMES BUREAU, INC.

572 Madison Ave., New York

INTERIORS OF LASTING BEAUTY AT SURPRISINGLY LOW COST...Plus the Advantages of Guaranteed Insulation



You can easily and economically transform unused attic or basement space into charming additional rooms.



or the most modest or the most daring designs—you can do a more satisfactory job with Celotex Interior Finish.

Celotex Insulating Interior Finish combines charm and beauty with authentic design, utility and economy—and is backed by the Celotex Written Life-Of-Building Guarantee.*

This means any room you finish in Celotex will give you lasting beauty, stay cooler in summer and warmer in winter, provide a quieter atmosphere, and assure permanent fuel savings. Furthermore,

any time you desire, you can paint over Celotex without loss of insulation.

Celotex Interior Finish comes in planks and tiles in attractive colors and textures. They are easy to handle, go up fast, stay put—and are protected against termites and dry rot by the exclusive Ferox Process (patented).

Other Celotex Interior Finish Products include Celotex Hard Board, Panel Board, Studio Board and Celotex Texbord.

If you are building or remodeling—or turning waste space into livable rooms—ask your Celotex lumber dealer for the new free booklet in full color.

Above—Celotex Texbord—wood veneer adhered to Celotex in plank form—offers fine paneling at low cost.
Below—Celotex Insulating Building Board, grooved, colored with crayon and trimmed with chromium mouldings.



THE CELOTEX CORPORATION SH-38
19 N. Michigan Avenue, Chicago, Ill.
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